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McNAB plan scotched in SED takeover

by Olga Wojtas
Scottish Correspondent

The Secretary of State for Scotland has firmly rejected the idea of a McNAB, a central agency to oversee Scottish higher education outside the universities on the lines of England's National Advisory Body.

Instead the Scottish Education Department will increase its own already formidable powers. Three more central institutions directly funded by the SED are to be established and the department has hinted that it would also like direct funding of some non-advanced courses in local authority colleges.

The long-awaited decision leaves the present system virtually unchanged. Eighteen months ago, the report of the Scottish Council for Tertiary Education was published, and the one point on which its majority and minority reports agreed was that a new body should be responsible for funding tertiary education.

A Scottish Tertiary Education Advisory Council is to be set up in the new year, but it will be a think tank rather than a McNAB, with its advice sought on broad priorities rather than detailed questions of resource and student intake.

Direct funding could be introduced in local authority colleges of certain non-advanced courses "of national significance such as information technology". They would then also require formal approval from the SED.

The new council will have a specific remit of collaborating with NAB, the University Grants Committee, and the Manpower Services Commission, but since it has no financial responsibilities, it will undoubtedly be a poor relation.

The Government has completely rejected the minority report proposals that all tertiary education should be run by the local authorities. It has backed the majority view of a split between advanced and non-advanced further education, with advanced further education funded and run cen-

trally, while non-advanced work remains under regional control.

It has also backed the majority proposals that Leith Nautical College, currently a central institution, should become a regional authority college, and that Napier, Glasgow and Bell Colleges of Technology should become central colleges.

Mr Keir Bloomer, deputy general secretary of Scotland's largest teaching union, the Educational Institute of Scotland, has condemned the government for squandering an opportunity by simply "marginally adjusting the frontier running through the confused landscape of Scottish tertiary education."

However, Dr Peter Clarke, principal of Robert Gordon's Institute of Technology, Scotland's largest central institution, and chairman of the Scottish Committee of the Council for National Academic Awards, praised the announcement from Scottish Secretary Mr George Younger.

He and several other principals had disagreed with the Tertiary Council proposal of a new body responsible for funding "because we saw from the experience of the UGC that partiality and special pleading would sour relationships."

"Committees are rather like babies: it's better if they start with brains, and teeth can be added later."

Dr Clarke added, however, that he was unhappy that little had been said about liaison between Scottish universities and higher education institutions.

Leith's principal, Dr Alan Watson, condemned Mr Younger's decision to transfer his college. One reason given for the transfer is that it has no degree course, but Dr Watson said the SED had been sitting on a proposal for a degree in sea transport for some time.

However, both Lothian region's director of education, Mr David Semple, and education committee chairman Mr James Gilchrist, have welcomed the transfer of Leith, which they say will allow region to rationalize and develop courses.

Universities will avoid more cuts

Both the Department of Education and Science and the University Grants Committee are still confident that further cuts in the universities next year can be avoided despite new pressure from the Treasury for a reduction in public expenditure.

The £30m of cuts in this year's education budget, announced by Chancellor Mr Nigel Lawson two weeks ago, are being regarded as a minor hiccup although the bulk of this saving will have to come from the grant to universities.

The UGC held its last meeting before its summer recess last week and no emergency meeting is planned. The next meeting of the committee will be its annual residential weekend in September. In the meantime Sir Edward Parkes, the UGC chairman, will handle the delicate negotiations with the DES and Treasury under his normal vacation powers.

No special letter will go to universities on how their share of the £30m is to be distributed. The UGC expects that

they will continue to receive their anticipated grants without deduction. As reported in *The Times* last week, shortfalls in other funds, in particular for restructuring, are expected to be used to make up the present deficiency if the Treasury agrees.

However, universities will shortly receive letters giving their provisional grants for next year, 1984/85. These will assume level funding; the grants will not be recalculated to start from a lower base because of the £30m emergency cuts package.

Sir Keith Joseph, the Secretary of State for Education and Science, is expected to fight hard to protect the universities in this autumn's horse-trading in the Cabinet about next year's public expenditure plans.

Backed up by the UGC he will argue that there has been no overspending by universities and therefore that they should not suffer from any general cuts that are the result of overspending in other areas.

He is determined to maintain the

science budget and the universities' "new blood" posts and has the support of the Prime Minister in at least the first of these. The number of "new blood" posts in the humanities and social sciences is to be doubled to 60 a year in the two remaining years of the scheme and this extension of the experiment is expected to go ahead.

The DES and the UGC are both anxious that the morale of the universities, which has just begun to recover from the trauma of July 1981, should not be undermined by rumours of further cuts which they are determined to fight hard to avoid.

Ministers have acted swiftly to counter suggestions that student awards might be a main target of the cut. An otherwise routine Commons written answer by the under secretary for higher education, Mr Peter Brooke, was being interpreted as reaffirmation that the 4 per cent increase announced in March would stand. Announcements of the remaining supplementary rates will be made in the near future.

ACSET plans central control

by Patricia Santinelli

A national advisory council for accreditation designed to impose a new powerful form of central control on all teacher training courses, and the extension of the postgraduate route to 36 weeks was recommended this week by the Government's advisory body on teacher training.

The Advisory Committee for the Supply and Education of Teachers' advice which is likely to be accepted by the Secretary of State for Education will mean that all existing and new courses will be checked against new criteria before they are granted approval.

ACSET's decision to recommend an extension of the PGCE to 36 weeks from 1984 is based on the strong belief that the new criteria cannot be achieved within the current average length of the 30-week postgraduate course. It has done so even though it is aware that this has considerable resource implications and must be accompanied by some increase in public expenditure.

The advisory council is expected to be an independent transboundary body

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NAB and DES agree to differ on cuts

by Karen Gold

Several thousand extra students and a greater than expected fall in the unit of resource in polytechnics and colleges may be the result of a disparity in calculations of student numbers between the Government and the National Advisory Body.

The NAB committee, after its meeting with Sir Keith Joseph, the Secretary of State for Education and Science, last week, announced that it had agreed to a compromise in implementing the proposed 10 per cent fall in 1984/85, which involved a fall in the unit of resource of some 13 per cent over two years, and a denial of access to 5,000 full-time equivalent students.

The NAB figures were based on estimates sent by local authorities in response to its planning exercise; the NAB has been working on the assumption of this kind of compromise, and stressed that the figures were a mini-

mum. "The plan is to seek to maximize access while maintaining proper standards," a spokesman said.

But at the meeting, with Sir Keith the NAB committee was told by the DES that because there had been no reduction in the 1982/83 intake of students, to achieve the compromise by reducing the 1984/85 intake would require a much larger reduction in students: up to 12,000.

DES projections, made from a different statistical base to the NAB's, suggested that student numbers might fall from the planned new admissions of 67,000 to 55,000, compared with the NAB estimate of 63,000 under the compromise solution.

The DES and the NAB agreed, with the DES arguing strongly that access should not be reduced further than the NAB calculation of 5,000, that the planning exercise should go ahead on NAB figures.

But if the DES calculations are

correct, the system will have to absorb up to 7,000 unexpected students, leading to a further fall in the unit of resource of an estimated two per cent - up to 15 per cent - although precise figures have not yet been worked out.

The situation is further complicated by the promise given by Sir Keith to the NAB committee that he would look at the problem of access and maintaining standards through the unit of resource and give the NAB an answer before the autumn.

The Committee of Directors of Polytechnics, which has consistently opposed large reductions in the unit of resource, said it was deeply concerned about the 13 per cent reduction in the unit of resource and would be even more so if that were increased.

The National Union of Students claimed that the effect was to widen the divide between academic standards in the universities and public sector higher education.

PCL courses lose approval

The Council for National Academic Awards has made an unprecedented decision to withdraw approval from three large courses in the Polytechnic of Central London's engineering department.

The polytechnic is to appeal against the decision, which was made after the CNA A electrical, electronic and computer engineering board visited the school of engineering and science last month.

The two full-time degrees which have lost approval from the next academic year form almost two-thirds of PCL's engineering degree courses. They are the BSc and BSc (Hons) in electrical and electronic engineering, and the BSc and BSc (Hons) in control and computer engineering, which between them have around 200 students.

The BSc in mechanical engineering, the third full-time degree, with about 120 students, has been approved. Approval has also been withdrawn from a part-time MSc in digital systems

and instrumentation, which has around 70 students spread over two years. Students already on the three courses will be allowed to continue to the end, but those who have failed their first year exams will be advised to transfer.

A CNA A official said that a decision to withdraw approval from three courses in one department had never been made before. The reason was concerns of the management and organization of the courses.

The attention of the polytechnic has been repeatedly drawn to the difficulties that were perceived and that these were due to poor arrangements in the school of science and engineering for the control and management of the courses.

There is widespread resentment among staff and students at the PCL that the CNA A's decision and its support may have been prompted by a desire to reduce some London courses before the National Advisory Body made its own recommendations.

مكتبة جامعة القاهرة

David Jobbins report on UKCOSA's annual conference

Overseas policies put to test

A permanent new forum to test the effects of changing Government policies for overseas students could be set up by the autumn.

It is based on the interdepartmental working group set up to review Government policies in the light of last year's Overseas Students Trust report. It is expected to include outside agencies involved in the overseas student question in a formal panel or round table.

Mr Ray Whitney, under-secretary at the Foreign Office, indicated his general support for the plan when he addressed the UKCOSA conference last week. Although he stopped short of a formal announcement that the "round table" would be established, he promised consultations with interested parties about its composition and role.

But he did accept the need for consultation between the IDG and outside bodies. These are likely to include the UKCOSA, the National Union of Students and a myriad other organizations with interests touching on the overseas student issue. There must be concern in official circles that the new body should be sufficiently large to represent governmental and non-governmental claims while keeping it from becoming unwieldy.

The initiative for setting up the new forum lies largely with the scholarship and awards unit of the Foreign Office but ministers feel that the interdepartmental group should remain its focus.

But there are fears the idea may become stuck at the level of informal consultations between departments. Ms Gail Taylor, UKCOSA's new executive secretary, said: "I am concerned we do not get stuck with informal consultations with the Foreign Office and have no contact with the interdepartmental group."

Each foreign student 'equals £600 profit'

British taxpayers gain at least £600 for every overseas student studying in Britain, the annual conference of the United Kingdom Council on Overseas Student Affairs was told.

The calculation came from Mr John Mace, reader in the economics of education at London University's Institute of Education.

His conclusion contradicts the view expressed by Professor Mark Blaug that the trade and invisible export earnings derived from overseas students should be set at zero. Trade benefits should not be ignored just because they are impossible to measure precisely, Mr Mace argued.

He said it depended on the observer's economic persuasion. "Keynesian economists would tend to see overseas student spending in this country as a benefit. The monetarist view is more difficult to argue because it depends on the current level of economic activity."

But on the monetarist model, if the economy was operating below capacity and unemployment was above its "natural rate," an increase in aggregate

demand should be seen as a clear economic benefit.

"One way around the problem is to treat overseas spending as an invisible export and if we, as the Thatcher government does, believe in export-led growth then it is an economic benefit."

Discussion revolved around whether overseas students cost or made money, but there was an impassioned plea from Mr Tommy Gee, secretary of the Institute of Development Studies at Sussex University, not to lose sight of the humanitarian and other arguments for internationalism.

Mr James Porter, director of the Commonwealth Institute, drew attention to the lack of authoritative research into the effects of British education on third world development and on the experience of individual students in the UK.

Delegates to the conference at Brunel College, Reading, resolved to reassert the "internationalist" perspective alongside the narrower one of economic self-interest and to promote international education through commissioning or undertaking research.

Public sector enrolments slump

First-year enrolments by overseas students at British universities showed a slight increase in 1982/83 but there was a dramatic 19 per cent fall for polytechnics and other higher education colleges, according to official provisional figures issued this week.

University first-year enrolments rose by 1 per cent compared with 1981/82, largely because of a 2 per cent increase in postgraduate registrations.

But the public sector figure compares with a fall of only 4 per cent between 1980/81 and 1981/82.

Provisional figures for non-advanced further education show that the

number of overseas students in the first year of their studies remained almost static at 6,000 following a dramatic slump from a peak of 18,800 in 1977/78.

Excluding students from the European Economic Community, who pay fees at the home rate, the Department of Education and Science estimates that the overall number of overseas students fell by 11 per cent from 55,600 in 1981/82 to 49,300 last year. In higher education the drop was 10 per cent.

Students from Malaysia, Nigeria, Hongkong, Iran and Greece were up over 40 per cent of the overseas students in higher education.

Vice chancellors unhappy with Leverhulme proposals

by Paul Flather

Vice chancellors fear some of the main recommendations of the final report of the Leverhulme inquiry into higher education might harm the work of universities.

The Committee of Vice Chancellors and Principals says that a general restructuring of courses, the separation of research and teaching funding, or the establishment of a general academic review body "are likely to harm rather than improve the work of universities."

The committee also says that some of the proposals of the study, entitled *Excellence in Diversity*, particularly those dealing with course structure, might lead to greater uniformity, not diversity.

The two-year study, resulting in 11 volumes of evidence and argument, is the most comprehensive inquiry into higher education since the Robbins report 20 years ago. It called for an end to the specialized three-year honours degrees, preferring broad courses fol-

lowed by specialization.

"We believe the developments over the coming decade should aim to widen access to universities and to reduce undue specialization in schools provided that they do not impair the distinctive contribution made by universities to teaching, research, and scholarship at the highest level," the committee states.

Vice chancellors do, however, plan to discuss the issues raised in the report at their next meeting in September, seeing questions about premature specialization and the need to maintain academic standards as part of wide-ranging current debate.

But it is clear the CVCP after a preliminary look at the report was keen to put down a marker, particularly opposing any new centralized body modelled on the Council for National Academic Awards to monitor university standards. The study was organized by the Society for Research into Higher Education and cost about £100,000.

Courses 'must be relevant'

New advanced further education courses must be directly linked to industrial, professional or commercial needs, or they will not receive Department of Education and Science approval.

Courses intended to start in 1984/85 will have to be related to industrial needs for skilled technological or scientific workers, or be otherwise essential for industry, commerce and the professions, a DES circular says.

The new arrangement was agreed by the DES in consultation for the National Advisory Body, regional advisory councils, local authority associations and voluntary bodies.

Part-time and full-time courses will be affected. But departments that want to make minor modifications to their existing courses can do so without

going back to the DES for those changes to be approved.

The circular also gives blanket permission for any courses to take place which are provided on a "full-time" basis, funded by sponsors and with a "trial" entry to employees of those sponsors or other people nominated by them.

The change will give a boost to the Government's support of courses to be run by small private industry or company sponsored bodies, such as the BUCKLE (British Universities for Commercial Learning) initiative which has often come up against bureaucratic and financial problems for polytechnics and colleges in meeting industry training requirements at short notice.

Unions fear collaboration

Leaders of the two main lecturers' unions say they will resist collaboration between universities and polytechnics at local level if it means diminished educational opportunities.

In a joint response to a policy statement from the vice chancellors and polytechnic directors advocating local cooperation, the presidents of the university and college lecturers' unions say "Collaboration must be designed to enhance opportunity not to diminish it."

Mr Steve Ruhemann, of the Association of University Teachers, and Mr Cecil Robinson, of the National Association of Teachers in Further and Higher Education, welcome the "broad thrust" that cooperation is most effective when it springs from initiatives of neighbouring institutions and departments.

They support the view expressed by the vice chancellors and polytechnic directors that, inflexible national bureaucratic structures to supervise cooperation would be counter-productive.

But they enter one stern reservation about the alleged failure of the vice chancellors and directors to state firmly and clearly that the fundamental purpose of collaboration is to allow greater public participation and to maximize research.

"We are strongly opposed, in the interests of the public as of our members, to measures of collaboration which are designed to bring about a reduction of the resources allocated to the system and hence of diversity of opportunity for students and career prospects for staff."

In particular they promise determined resistance to a suggestion that survival of departments might depend on collaboration.

"This implies a threat of unacceptable pressure on our members," the presidents say. "We could not tolerate the continuation of courses in different institutions being dependent on their being merged."



Canadian kite designer Miss Skye Morrison, one of the 1983 artists in residence at Bretton Hall College, Wakefield. She has exhibited her work as textile design lecturer at Sheridan College, Toronto, throughout the world.

British effort 'a picture of muddle'

by Jon Turney

Science Correspondent

Britain could fall behind in the lucrative new technology of satellite remote sensing unless there is better coordination of national strategy for research, development and exploitation, according to Royal Society evidence put before a House of Lords select committee.

The society has published its evidence to the Select Committee on Science and Technology's inquiry into remote sensing and digital mapping—which involves encoding and processing very detailed images of the earth's surface from instruments in orbit.

In common with other submissions, the society's memorandum stresses that the area is developing rapidly, and involves a wide range of different organizations. It says remote sensing has now become an enabling technology in some ways as important as information technology or biotechnology.

The Royal Society argues that a national strategy to develop remote

sensing should be operated by complementary public and private sector networks, with the public sector interests coordinated through the National Remote Sensing Centre at Farnborough.

The memorandum says the Ordnance Survey should play a leading role in developing mapping applications of remote sensing data, and should maintain strong links with the centre. The whole effort should be coordinated by an interdepartmental committee and a joint research councils committee, the society believes.

The committee has now finished taking written and oral evidence before the parliamentary recess, during which it will study programmes for developing satellite observation overseas. The apparent lack of coordination of the British effort is likely to be a major concern of their report, expected to be written before the end of the year. When Sir Hermann Bondi of the NERC appeared before the committee, Lord Chorley told him the evidence so far showed "a splendid picture of muddle".

Six lead on ethnic training

Six urban universities and polytechnics will be the first participants in the long-awaited national programme of multicultural education for teacher trainers being launched this autumn.

The scheme will be directed by Professor Maurice Craft, dean of the faculty of education at Nottingham University, one of the participating institutions.

The programme will draw on the now well-known findings of many surveys which have shown the inadequate preparation of teachers for work in a multicultural society and it will follow the 1981 recommendations of the Commons Home Affairs Committee.

It will consist of short courses of between one to three terms aimed at lecturers and i.e.s. advisers in initial and in-service education, which are to be offered at Liverpool and Nottingham universities, the London Institute of Education and at Birmingham, Manchester and Sunderland Polytechnics.

Although each institution has developed its course along general outlines, all agreed that three broad elements should be included. These are the need for all children to know something about the multicultural society they live in; special needs such as language handicaps; and intercultural relations dealing with prejudice and racism.

The programme has no central funding but each institution has been able to obtain funding under the Department of Education and Science regional in-service arrangements, ranging from between £500 to £1,300. In addition the Boots Charitable Trust has provided £1,000 which is to be used for travel and administration.

A second phase is being planned for 1984/85 with the aim of establishing similar courses in more rural regions.

Edinburgh nursery reprieved

Edinburgh University's court has reprieved the day nursery for three years following vigorous campaigning from staff and students against its closure.

Edinburgh's Association of University Teachers had asked the Advisory, Conciliation and Arbitration Service to intervene since the university refused to negotiate over the future of the nursery, due to close next summer.

The closure would have meant the loss of 14 jobs, the first university compulsory redundancies, the AUT also warned court members that the university, having already established the "nursery" might breach the Sex Discrimination Act if it closed.

It argued that most students using the nursery were postgraduates, and that a day nursery could attract overseas postgraduates.

HMI warns of more cuts peril

by Paul Flather

A further squeeze in spending allowances fixed for polytechnics and colleges could lead to fundamental changes in the educational provision for students, Her Majesty's Inspectors say in a report this week.

The report based on HMI visits during 1982 states that three out of four institutions appeared to be coping satisfactorily with increased student numbers using a smaller teaching force, and some were even doing very well.

But the inspectors found evidence that "a further tightening of staffing ratios would require more fundamental changes in disposition and institutional management procedures". At risk could be the quality of instruction provided.

The report covers the effects of local authority expenditure on education provision during 1982 and was prepared for the Expenditure Steering Group (Education), comprising officials from the local authority associa-

tions, the Department of Education and Science, and the Department of the Environment.

It comes at a time when ministers at the DES are discussing ways to find new cuts totalling £30m. The steering group has already warned that compulsory redundancies would be needed among polytechnic and college lecturers if 5 per cent cuts were demanded next year.

The general conclusion of the report, which deals mainly with provision in schools based on 2,259 returns from 1,733 schools, and 671 returns covering 339 colleges and polytechnics is "needs to do better".

It states that the pace of deterioration has slowed, but it adds that "there is much to be done to make good the basic range of provision, and even more to meet necessary changes in population of pupils and students".

In one out of four further education institutions judged less than satisfactory the inspectors were concerned about the need to improve, update, or replace specialist equipment, about

shortages of laboratory and workshop materials, about inadequate book-stocks, and about shortages of technicians.

Many colleges, particularly those providing predominantly non-advanced courses, were becoming severely taxed by the increasing number of students they were attempting to cater for, the report states.

Sir Keith Joseph, the Secretary for Education, said he took seriously the concerns expressed in the report. He noted the position had not changed dramatically since last year, with a number of deficiencies which must be given attention, but also many satisfactory features on which to build. Colleges appeared to be adapting well to meeting new demands, with no evidence of any major defect in the system.

"As the report makes clear there is no simple relationship between expenditure on the one hand and the quality of education offered and the achievements of pupils and students on the other," he said.

Poor thesis rates blamed on supervision

by Jon Turney

Science Correspondent

Poor supervision is to blame for low thesis completion rates, according to students pursuing interdisciplinary PhD projects.

A study commissioned by the Joint Committee of the Social Science Research Council and the Science and Engineering Research Council found that problems with supervision were the most often cited reason for difficulties among respondents to a questionnaire sent to all joint committee funded research students working between 1970 and 1980.

The report, by Dr Tom Whiston of the Science Policy Research Unit at Sussex University, notes that PhD completion and withdrawal rates for students on joint committee grants compare unfavourably with those for science postgraduates on single-discipline projects. Although the rates do not differ appreciably from those for straight social science PhDs.

The joint committee was set up in 1968 to back projects which touch on interests of both councils, and most projects are in the developing area of social studies of science. The committee also administers the SERC's "total-technology" scheme for industrially orientated PhDs on behalf of the council's engineering board.

The report suggests that the 500 or so students who have pursued PhD work funded by the joint committee often have problems stemming from intellectual isolation, working in underdeveloped areas, and tackling problems more complex than those faced at this level in physical, social or behavioural sciences alone.

But Dr Whiston concludes that "the large number of withdrawals, lapsed studentships and incompletions, clearly suggests that some form of remedial action is required".

Some efforts to deal with the special problems of interdisciplinary research appear unsuccessful—the report notes that multiple supervision, intended to help cover all aspects of the problem, gives rise to even more complaints from students than conventional arrangements. Dr Whiston writes that one of the points made most often was the need for one person to be directly responsible for each student.

Other changes proposed in responses to the questionnaire included longer study periods, because interdisciplinary projects take longer to finish, having two external examiners to assess different aspects of the thesis, and more use of preparatory multidisciplinary courses.

Dr Whiston suggests the councils produce a booklet on good supervisory practice specifically for research students taking higher degrees under the joint committee; that there should be a national data bank of such theses to help new students see how others have faced the problems; and that universities be encouraged to fund liaison officers, to help set up projects with industry and improve communication between students and departments.



Unexpected company: this turtle is the creation of Debbie Smith, a ceramics student who has just graduated from the South Glamorgan Institute of Higher Education.

Lecturers sceptical

Lecturers greeted with scepticism this week remarks by the head of Hendon police school that he had been shocked by the racist tone of essays written by some of his cadets.

Commander Richard Wells said on BBC's *Panorama* that the "deplorable" attitudes expressed were out of character.

But Mr Peter Dawson, general secretary of the National Association of Teachers in Further and Higher Education, commented: "We cannot believe the racist attitudes apparently disclosed by the essays could have come as a surprise to Commander Wells or anyone else. There has been ample evidence of racism among the police for years."

Commander Wells added on the programme, that one of the "fine sides" of the "miserable" affair in which a civilian lecturer handed the essays to the media, was that it "has helped us focus on a problem and cope with it."

But Mr Dawson said: "Short-lived sensational publicity does not of itself bring about the changes necessary in police training to combat racism. What counts is continued pressure."

Earlier this month Natfhes stressed the importance of a strong lay element in police training including the involvement of ethnic minorities.

But in response to the Police Training Council's own report the association came down heavily against the recommendation that a new training support centre should be attached to a university instead of the public sector.

Croydon prepares peace formula

The outlines of an agreement worked out at the highest level between education authority officials and union leaders may lead to a settlement of the dispute at Croydon College over an attempt to impose longer teaching hours.

It was thrashed out in talks this week involving Mr Peter Dawson, general secretary of the National Association of Teachers in Further and Higher Education.

ACSET plans central control

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with similar powers to the Council for National Academic Awards to visit institutions. Initially it is anticipated that its review of courses will take between two to four years, after which it will conduct quinquennial reviews.

The council would be advisory only, but it would function independently from the Department of Education and Science. Her Majesty's Inspectorate, validating bodies, the University Grants Committee and the National Advisory Body.

Although its role would be basically to judge the suitability of courses for the professional preparation of teachers, it is expected that this would also extend to questions of academic content and standards, but without pre-empting the function of validating bodies.

Its membership, expected to be between 15 and 20, would be independent people, representing teachers, teacher trainers, and employers. A wider range of members might serve on sub-committees.

The council would be able to refuse to examine a course, unless it had been thoroughly discussed by local teacher training committees. ACSET recommends that each institution should set up such a committee comprising principally representatives of the institution, employers and practising teachers.

The council's new criteria are described as a distillation of current good practice. They would be reviewed periodically.

Institute bid to take over from ACACE

The National Institute of Adult and Continuing Education is now in a strong position to take over a substantial part of the remit of the Advisory Council for Adult and Continuing Education when it winds up in October.

An informal meeting has already been held with officers from the Department of Education and Science and the institute has been asked to put forward its suggestions. It is not likely a development council will be set up to replace the ACACE.

Roman Catholic college closes smaller site

by Olga Wojtas

Scottish Correspondent

The governors of Scotland's only Roman Catholic education college are to sell their east coast site after successfully fighting two Government attempts to close.

Craiglockhart College in Edinburgh and Notre Dame College in Glasgow merged in 1980 to form St Andrew's College of Education after the Catholic hierarchy put pressure on the Scottish Office, which wanted to axe Craiglockhart. A telegram urging support was even sent to the Pope.

A previous attempt to close Craiglockhart in 1977 was also bitterly opposed, with the hierarchy insisting that a Catholic presence must be maintained in the east of Scotland.

Now the governors of St Andrew's have said that all pre-service courses will be run in Glasgow, although they are giving consideration to an in-service base in the east.

Bishop Joseph Devine, chairman of the governors, who at present is in Lourdes, said the move was inevitable since there were now only 30 students at Craiglockhart site.

The decline in numbers stems from Government cuts in intake, but Craiglockhart staff feel the running down of their site has resulted from the merger. It was never a marriage of equal partners and the power base of the new college was firmly set in the west.

The final blow fell when the Secret-

ary of State for Scotland recently announced that there would be an all-graduate teaching profession, with the primary diploma replaced by the BEd degree.

While the Craiglockhart site runs a diploma course, the Glasgow site offers the primary degree and all Craiglockhart's first-year intake have opted to transfer to Glasgow, leaving only 30 students in Edinburgh.

The governors have said that the 24 staff at Craiglockhart are not at risk. Most will transfer to Glasgow and nine full-time equivalents will carry out in-service training in the east.

The official hope is that whoever buys the site will lease some accommodation for in-service work, but it is expected that staff will move elsewhere, perhaps to Moray House College of Education, also in Edinburgh.

This has not, however, pleased Craiglockhart staff, who have always said it is vital to have pre-service courses as well as in-service ones.

Redundancies do not seem likely at present so the Association of Lecturers in College of Education in Scotland has made no comment on the sale. The Scottish Education Department is also standing back, although it had no hesitation in approving the sale.

One staff member at Craiglockhart, who reported that colleagues were very demoralised and disheartened, said: "The real trouble is we don't quite know who we're fighting."

Trent is top of the social work pops

Trent Polytechnic has emerged as the most popular institution for non-graduate students seeking a course leading to a social work certificate, with each place chased by more than four students.

It is followed closely by Middlesex and Ulster Polytechnic, based at Newtonabbey, also with four students applying for each place, with Huddersfield, Kingston, Manchester, Huddersfield, Newcastle and Coventry (Launceston), Newcastle and Liverpool polytechnics, Southampton University, and Dundee College among those attracting more than three applicants a place.

Among institutions offering the Certificate of Qualification in Social Work to candidates with relevant degrees or diplomas, the London School of Economics, Goldsmiths' College, London, Nottingham University and Queen's University, Belfast, appear to be the most popular.

The figures are contained in the latest report on applications produced by the Central Council for Education and Training in Social Work. The report lists tables giving the first, second, third, and fourth choice of CQSW applicants.

The council remains scrupulously impartial on the courses. But there are some interesting discrepancies, for example students seem to prefer the Manchester Polytechnic course to the Manchester University one, and Leeds University received just 36 first choice candidates for 50 places for its graduates course, while most other institutions were oversubscribed.

A spokesman for Trent Polytechnic suggested that the course was popular probably because it had been established for some years, with a good reputation, and because Nottingham was a convenient base drawing students from five neighbouring counties.

Overall the figures show that the training intake for residential staff taking CQSW courses went up significantly between 1981 and 1982.

British 'lack good contacts in Brussels'

British universities are missing opportunities to tap the huge budget of the European Commission because they lack good contacts with the decision-makers in Brussels.

A paper just circulated by the Committee of Vice Chancellors and Principals says that no matter how good the flow of information to British universities, the key to winning research cash from the commission is getting to know the relevant officials and groups in the organizations.

The paper follows a visit to Brussels and Luxembourg in May by CVCP members and staff to help establish contacts. The European Commission's current spending plans for scientific research are running at £800m a year over the next three years and the paper gives details of some of the lesser-known features of its programme.

There are also separate budgets—linked to policy studies, which covers a wide range of disciplines; agriculture, related to the common agricultural policy; and relations with developing countries. Each of the commission's 20 directorates-general has a small budget for studies relevant to its administrative responsibilities, ranging from employment to fisheries. Individual contracts for this work, which may be worth £50,000 or more, again depend on personal contacts.

Moves to promote scientific cooperation in Europe are also in hand in both the European Commission and the Independent European Science Foundation. The commission has just set up a new committee for European development of science and technology to stimulate basic research in the European Community.

The committee's bureau, managed by the chemist Ilya Prigogine, and Hubert Curien, president of the European Science Foundation, has around £2m a year to spend, and has called for research proposals in pharmacology, solid state physics, optics and climatology.

bits and pieces of the ACACE's projects can be best put to tender.

One of the most important is the unemployment scheme for which both the Further Education Unit and the NIACE will be contenders, although it is likely that "compensating" money will be expected in order to do the job properly.

No specific proposals have been made yet and the official DES line is that a range of options are still being looked at for replacing ACACE.

Off the record, MPs criticize secrecy

by Paul Flather

Academics and researchers have grave misgivings about the current system of rules governing the declassification and preservation of secret Whitehall files and clinical records.

Their views are contained in evidence and written memoranda to the Commons Select Committee on Education, Science, and Arts, which has just published the minutes of its inquiry into official public records policy.

The general election intervened before the committee was able to agree its final report but a confidential draft, produced by the former committee as chaired by Mr Christopher Price, is highly critical of current policy and methods.

For example the draft urges the Government to declassify far more material before the 30-year norm set under the 1967 Public Records Act. Under the 1938 Public Records Act early release is allowed with the agreement of both the Lord Chancellor and the minister involved.

The draft states that preoccupation with secrecy remains too great a concern of government and too great an

attraction for its practitioners. "We suspect that it costs a great deal of money to maintain, which could be better spent on better preservation of public records," it says.

The collected evidence from medical and historical researchers suggests four main reforms:

- A need for far greater supervision of public records to prevent excessive destruction and excessive retention;
- The creation of sector panels involving professional academics and historians to assess records in each department;
- Important Particular Instance Papers (PIPs) should be covered by the policy and retained. Clinical records should remain protected by the Public Records Acts.

Advisory sector panels were strongly urged by Sir Duncan Wilson in 1981 after an inquiry into public records, but were rejected as unnecessary in 1982. White Paper published in 1982. Civil servants appearing before the select committee also said they would be too expensive.

Professor Margaret Gowing of Oxford University, who has had 41 years of experience with public records, was

for example very scathing of the official reply to the Wilson inquiry. She dismissed the idea that sector panels would cost too much as a false economy, pointing out in any case the cost of the present system of weeding records was unknown.

The main object of the panels would be to cement the liaison between the academic world and those keeping the records. In her view the Public Records Office lacked the feel of scholarship it brought to medieval documents when dealing with modern records.

She said sector panels were the only way to decide on PIPs, which can give historians a detailed view of how a problem was being seen by Government. "Records are the essential basis of the historical scholarship from which popular interest is served and the PRO is one of the richest archives in the world," she wrote in her memorandum.

Other statements were sent by the Royal Historical Society, the History Workshop collective, and the Society for the Study of Labour History which called for a proper public records service capable of responding flexibly and sensibly to the changing needs of

research workers. A host of evidence from medical researchers including the Society for the History of Medicine, the British Society for the History of Science, the Society of Genealogists, and the National Perinatal Epidemiology Unit at Oxford, is strongly critical of Government plans to remove clinical records from the Public Records Act.

Dr Charles Webster, an eminent medical historian and director of the Wellcome Unit for the history of medicine, at Oxford University, said vital historical records would be placed at risk by such a move. Records would no longer be subject to statutory guidelines for preservation, but to local administrative decisions made on a myriad of different criteria.

The new select committee once reconstituted will have to decide whether it wants to proceed with a report on public records, which the Government would be bound to respond to.

House of Commons education, science and arts committee session 1982/83, Public Records minutes of evidence and appendices, HMSO £9.15.

'Increase science intake'

by Olga Wojtas
Scottish Correspondent

The principal of Edinburgh University has called on the Government to provide more funding to research and allow larger student intakes in the sciences.

Dr John Burnett, speaking at a science graduation ceremony, said the Government "very properly" saw the application of science as a means to improve material productivity and was increasingly intervening to direct activities in universities towards this goal.

Edinburgh had gained around £20m from earmarked funding and £12m of research grants and contracts from the Government. But at the same time, Government funds to the research councils were inadequate to maintain their activities, fully or even to meet staff salaries. The numbers of well-qualified pupils willing to enter higher education were held in check in universities, everywhere where there was spare capacity.

A similar guarded tone characterized their resolution on the National Advisory Body: another call on Sir Keith Joseph, this time to "demonstrate further his belief in the critical importance to the country's future of a strong, vigorous and responsive system of public sector higher education by persuading the Government to reexamine the priority it is prepared to give to higher education in public expenditure planning".

The resolution, which reiterated support for NAB but emphasized the need for realistic Government funding, was one of the most important before the conference, said its proposer, Mr John Peranan, chairman of Wakefield Education Committee.

Maintaining access to higher education is vital not only for individual students but also for the national economy and the whole community, said Mrs Josie Farrington, Lancashire. It was also vital to maintain the strength, parity and esteem across the binary line, she said. "I hope authorities who are not themselves interested in higher education are aware of the desperate need to make adequate preparation for a generation of young people for whom the stark alternative is not going into work".

If the NAB was to preserve its credibility with local authorities, it could not compromise on access to courses in the public sector, said Mr Fred Ridd, Nottinghamshire. The NAB had also picked up a habit of central government in allowing only a very short time for consultation with local authorities, said Mr P. Price, Cleveland. It must take account of the polytechnics' need to sustain research if they were to provide comparable courses to universities.

A series of resolutions commenting on the Manpower Services Committee's activities in education were passed, including one calling on the Government to deny unequivocally any intention of centralising the education service through the MSC.

Both the Association of County Councils and the Association of Metropolitan Authorities were mandated to press for substantial changes in the Youth Training Scheme; resources should also be made available to all school-leavers under 18 to have places on the scheme, as opposed to only 16-year-olds and some 17-year olds.

Local education authorities who incur extra expenditure in running their YTS schemes should also not be penalized by the Government's clawback arrangements for overspending, the conference agreed.

Karen Gold reports from the Council of Local Education Authorities' conference in Canterbury

Partnerships formed and reaffirmed

The Council of Local Education Authorities launched its members into their 1983 conference with a fraternal and unanimous agreement on partnership, not only among themselves but also with central government.

"Recognizing that effective partnership between central and local government is essential to a healthy education service" their first motion began reassuringly. "CLEA views with concern recent moves which have put that partnership under strain".

Continuing to balance support with criticism, the unanimously-passed motion which was proposed by Conservative MP Hamlyn and seconded by Labour MP Wakefield, called on the Secretary of State for Education and Science "to seek to renew with local education authorities a cooperative and constructive relationship which recognizes the legitimate interests of both participants".

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Maintaining access to higher education is vital not only for individual students but also for the national

Sharing problems and solutions

The problems of the education service are shared problems and the solutions must be shared too, Sir Keith Joseph, told the conference.

"That is why I shall be laying out, at the beginning of a new Parliament, a programme for action - an agenda for partnership" he said.

The proposals for education support grants to fund specific projects in local education authorities did not undermine that partnership, despite local authority concern about them which he understood, he said. They were "a limited shift, at the margin, in the balance of influence between local and central government".

Local authorities and government have to look again at teacher supply and at teacher training, both initial and in service, as the Cockcroft committee advised, he said. What is taught needs to be more applicable to the real world, and that affected the teacher training curriculum.

"I am now focusing on the content, relevance and quality of the training courses themselves. The Government has set out principles for improvement" he said.

MSC scheme 'a success'

The success of the Manpower Services Commission in identifying more than its target number of places for this year's Youth Training Scheme, and in finding extra money to fund the scheme, was a TVEI pilot scheme in every local authority that wanted one. But he denied that the MSC had any role in schools, not that the MSC would remain involved in schools in the long term.

The money from the MSC was received with scepticism by authorities participating in TVEI said Mrs Nikki Harrison, Haringey and vice chairman of CLEA. "I would have thought that 14 schemes are enough to learn by".

She also warned him about the MSC's latest consultative document suggesting it should take a leadership role in adult training. "Keep your hands off the adult education service," she said. "The latest report you have published has been received with enormous anger".

But Mr Young said that adult education was not a new interest for the MSC. "You are in fact belying us if you are suggesting that we can work in partnership, because what we have seen in TVEI is a real erosion of our powers and responsibilities" said Ms Ruth Gee, Inner London Education Authority.

Mr Young said he believed there should be a TVEI pilot scheme in every local authority that wanted one. But he denied that the MSC had any role in schools, not that the MSC would remain involved in schools in the long term.

Temperatures rise over salary gap

by David Jobbins

The widening salary gap between clinical and non-clinical academics in universities is expected to become a key element in next year's pay negotiations.

Leaders of the Association of University Teachers are to protest strongly to the vice chancellors at the way money can be found to pay the 3,000 clinicals an 8 per cent award when other academics were held back to only 4.6 per cent.

It is the second year running that the clinicals have been able to do better than other academics in salary awards. Last year they received the full National Health Service award of six per cent when staff received five.

On both occasions ministers have been prepared to meet the greater proportion of the difference between the award and the cash limit to which university salaries have been subjected.

Dr Andrew Taylor, a vice president of the AUT and chairman of its salaries committee, said: "Undoubtedly a central issue in next year's salary negotiation will be the ridiculous and unacceptable gulf opening up between"

clinical academics and their other colleagues. "But we will not be waiting until next spring. The AUT will be protesting strongly right now."

The AUT is also critical of the vice chancellors' readiness to supplement the award from the universities' own coffers by 30 per cent, so they feel that the impact will be felt by other staff.

Mr John Akker, the AUT's deputy general secretary, said: "We are concerned this could have an effect not so much on the clinical staffing levels, but on pre-clinicals because the management structure is weighted towards the clinicals."

The 16 university medical schools have been left in no doubt they must bear the extra cost which is not being met by the Government.

Clinical salaries have always led the non-clinical ones. In 1981, for example, a medical school senior lecturer could earn £2,540 a year more than the non-clinical professorial average of £18,480.

In 1982 the gap widened because of the differential award to £2,865. From January 1984, when the full NHS award is payable, the difference will be

Group judges effect of nuclear blast

by Jon Turney
Science Correspondent

A group of lecturers at Manchester University has published a city council-backed pamphlet describing the effects of a nuclear attack.

The pamphlet questions the point of current Government civil defence policies and is the fruit of the group's response to an earlier document distributed by the Greater Manchester Council.

Dr Philip Gummel of the Manchester University staff nuclear disarmament group said they had been dismayed by the earlier council publication, which painted an over-optimistic picture of the prospects for survival after nuclear attack. The group, which began simply as a discussion group for interested academics, was invited to write its new pamphlet after meeting the council's ruling Labour group two years ago.

The group stresses that it has no formal connection with the university, but most members of the civil defence working group have academic interests in defence issues. Dr Gummel, who lectures on arms control in the department of liberal studies in science - just rechristened the department of science and technology policy - said he had started to examine official figures on effects of nuclear weapons with an open mind for undergraduate lectures.

But after two years working with the group, he felt no one need be surprised that the pamphlet figures conflicted with Government estimates. "The impact, against Home Office survival estimates is now generally accepted," he maintained. He felt that the survival measured by official figures had no real meaning, as the estimates were only concerned with the very short terms.

Ironically, the group's pamphlet appears the week after the British Medical Association reacted angrily to Home Office allegations that the BMA's study group on the effects of nuclear weapons had been unduly influenced by disarmament propaganda. The BMA's study group, of figures calculated by another academic group, Scientists Against Nuclear Arms. The Manchester group also used the Scientists' computer models to assess effects of a nuclear blast on the city.

The Greater Manchester Council has paid for 2,500 copies of the leaflet and requests for more than this number had already come in before the pamphlet was formally launched.

Welsh wizardry

The president of Yarmouk University in Jordan visited the University College of North Wales in Bangor last week to discuss how Bangor scientists can help set up new departments in Jordan. The president, Dr A. Badran, visited biology and engineering departments, and met the Bangor college principal, Sir Charles Evans to talk about future collaboration.



Overseas connexions 'vital'

The presence of overseas students was important if Britain was to continue to have influence in foreign affairs, Lord Carrington, former Secretary of State for Foreign and Commonwealth Affairs said last week.

Lord Carrington was speaking at Essex University, where he received an honorary PhD from Sir Patrick Nairne, its new chancellor.

He told the congregation: "I believe that the presence of overseas students at our universities is important to us because if we are to have some influence in foreign affairs - and I hope and pray we shall continue to do so - then it is necessary for those in high places in other countries to have some knowledge of what goes on in this country, in our society and the strengths and weaknesses of our national life."

Referring to the withdrawal of subsidies for overseas students Lord Carrington said: "It is perfectly true that the expenditure got rather out of hand and was costing the British taxpayer something over £100m a year. Nevertheless I regret that it was necessary to do it so abruptly or to withdraw it so completely. I am happy that the Government has now decided to set aside a substantial sum of money to redress the balance."

Lord Carrington added: "And when

the students become the capitalists of industry, the politicians, the scientists, they will look to Britain (for it is Britain they know best) to provide them with the help and the goods and the equipment and the technical skills required for the development of their country. Mutual interest, mutual self-interest, is not a bad way to conduct the world's affairs."

"It is the universities - and Essex is one of the foremost - living always had about 20 per cent of its clientele from overseas who are playing such a large part in creating and helping understanding between this country and the rest of the world," he said.

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THE TIMES SUPPLEMENTS REPRINT SERVICE Robbins to Leverhulme

The Leverhulme programme of study into the future of higher education was organised by the Society for Research into Higher Education with a grant from the Leverhulme Trust and further grants were made by the Gulbenkian Foundation and the Department of Education and Science. The programme consisted of eight seminars the first in April 1981 and the last in September 1982.

An edited four-page version of the final report is now available in reprint form (first published in The Times Higher Education Supplement on 27th May, 1983) price 25p.

Inquiries should be addressed to Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX. Cheques/postal orders should be made payable to Times Newspapers Limited (no cash please).

Industrial threat to conferences

Universities' hopes of cashing in on the lucrative summer conference trade are threatened by industrial action by porters, catering and security staff.

A plan for selective strikes put forward by the National Union of Public Employees was given the backing of the trade union side at the weekend.

It will be implemented if the university employers do not improve their pay offer of a flat rate £3.30 a week to all grades of manual workers when the two sides meet again next week. The talks follow the rejection by the unions of the management offer.

Mr Alistair Macrae, Nup's national officer for universities, said: "This is a closed period for academics, technicians and the majority of university staff. But as far as our members are concerned they do not get the long break and in most universities are heavily involved in catering for and generally looking after the various summer schools and conferences which use university premises."

Although most degree ceremonies will have been held by the time any industrial action begins, those which have not will also be a target for action by manual workers. Catering could be disrupted, halls remain locked and chairs and tables not set up.

"Our members may demonstrate and quite possibly withdraw their cooperation with catering and security," Mr Macrae said.

Manual workers are expected to demonstrate at the vice chancellors' headquarters in London when negotiations are resumed.

One possible target of industrial action could be visits by royalty and other dignitaries. Prince Charles, chancellor of the University of Wales, is expected to visit one or other of the colleges in coming weeks.

In a six-week "cooling off" period in the National Union of Students internal dispute over pay structure, officials of the independent Advisory, Conciliation and Arbitration Service are chairing meetings between the two sides.

Engineers lack that material feeling...

British engineering graduates have little feel for the materials they will have to use to realize their designs, and this is one reason behind our failure to improve manufactured products as fast as overseas competitors. This complaint comes from a working group from the Fellowship of Engineering in a report published yesterday.

The working party, which included Dr Tony Kelly, vice chancellor of Surrey University, Dr Robin Nicholson, the Cabinet Office chief scientist and influential industrialists, maintains that "it is possible for students to graduate in material science, mechanical engineering and metallurgy with little or no direct experience of the wide range of available materials".

Their report highlights the crucial importance of materials in innovation through a series of case studies chronicling British successes and failures in products as diverse as digital watches and aero-engines, tennis rackets and refrigerators. The lesson drawn is that the potential rewards from use of new materials are high. But if these rewards are to be realized, the report argues, engineers must be trained who have a fair with such materials and can champion new products within firms.

Dr Norman Waterman, a consultant to the working party who prepared the case studies, explained that engineering training now emphasized mathematical and analytical knowledge at the expense of the craft skills formerly acquired during industrial apprenticeships. "When I give guest lectures on materials, I find it increasingly difficult to get the students to relate them," he said. Other countries trained designers with closer knowledge of materials.

The fellowship's report was sponsored by the Department of Industry, and Dr Waterman said he hoped both bodies would take its recommendations further, perhaps in conjunction with the Engineering Council.

Modern Materials in Manufacturing Industry: Fellowship of Engineering, 2 Little Smith St, London SW1.



Senior students at the London Contemporary Dance School Tamsin Hickling and Mark Astman present Chants, an original dance choreographed by third year student Kristin Gjens with music by Moondog. It made up part of the programme of the school's "A Choreographic Offering" every night last week.

Shake-up urged in computer training

Radical changes to set up national standards for and improve computing courses under the Training Opportunities Scheme are recommended in a report published this week.

The report, TOPS Computing Training is the first thorough review of such courses under which some 4,000 adults were trained in 1981/82 at a cost of £11.6m, mainly in commercial firms but also in 23 universities and colleges. It was undertaken for the Manpower Services Commission by an industry-based study group. The commission felt that the lack of nationally recognized standards was hampering both trainers and employers and decreasing the effectiveness of courses and subsequent placement. This fell from 79 per cent in 1979 to 43 per cent in 1982.

The report wants training to concentrate on three main skills - programming, systems analysis and business computing - with support training in computer sales.

In order to establish national certification standards, the authors recommend that the MSC enter into discussion with the Business and Technician Education Council, City and Guilds and the National Computing Centre.

and socially disastrous, and must in addition lead to adverse economic results." The NAB said that the MSC's use of the phrase "training for stock" seemed to assume "that employed and unemployed are synonymous with employable and unemployable".

The MSC's proposal that training should be locally managed through its own organization did not go far enough, said the AACE paper. A more effective local framework was needed.

Not less serious adult training possibilities unless additional funding was available and the legal basis of adult education and arrangements for training while receiving state benefits were reformed.

Clearly referring to the recent Leverhulme report, Sir Alwyn said some of the cries for change were insensitive to the objectives of higher education.

It was depressing to hear the call for a two-year degree when the growth of knowledge was exponential, when the most urgent problem facing the world was to find enough work for its growing populations, since formal study was a barrier to employment by any criterion.

But Professor Brian Morris, principal of St David's University College, Lampeter, came out in favour of vouchers when he addressed graduates at their degree ceremony.

"This is an excellent suggestion," he said. "So long as vouchers and new fee structures enhance a university's ability to teach its students and to advance knowledge by research, let us adopt them. But if they do not, away with them, let them be cast into outer darkness."

Professor Morris was less convinced about the second proposal that a small number of universities should receive global sum allowing them to decide individually how many students to take, what maintenance grant to give each student, as well as what fees to charge and what subjects to teach.

"A university does not exist to provide such trained manpower as one government thinks the nation needs, or as a recruiting centre for government and the professions," he said. "No government may dictate to a university what it shall teach or what areas of undiscovered knowledge it should explore."

Overseas news

France's lecturers angered by shorter holidays plan

from Guy Neave

PARIS
Proposals modifying conditions of service for France's 43,000 dons have run into belated opposition from the two main lecturers' unions, the Syndicat National de l'Enseignement Supérieur and the more moderate Syndicat Général de l'Enseignement Supérieur.

The most controversial proposal is the extension of the academic year by seven weeks and a corresponding increase in the teaching load.

In a dramatic gesture, the Syndicat National resigned en bloc from the Comité Technique Paritaire, the main

negotiation forum between government, university administration and academics on questions of conditions of service. Not to be outdone, the Syndicat Général boycotted the meeting of the committee on July 11.

The director general for higher education, M. Jean Jacques Payen found himself in the embarrassing situation of having to abandon the meeting for lack of numbers.

The unions' message to the government is clear. Attempts to force through this controversial legislation during the summer recess will meet with all-out resistance. The uproar is not directed

against proposals to restructure the academic profession - this is something the unions are becoming rapidly resigned to.

The real cause of discontentment is the extension of the university year and the fact that it can be implemented very quickly. If the government has its way, it could become effective from the start of the coming academic year.

Despite the winding down of the summer recess, some 60 members of staff from the University of Lille have gone on record as telling the minister of education, M. Alain Savary, that they will not obey any instructions to prolong

the next university year.

The next meeting of the negotiating committee has been fixed for later in the month. But there is every likelihood that, if he persists in this vein, the only support the director general for higher education will get will be from his own civil servants. More importantly, he risks alienating a body which has traditionally been left inclined.

Given the difficulties still to be faced in the passing of the higher education guideline bill, both M. Payen and M. Savary need all the support they can get.

Reagan gets tough with racist states

from E. Patrick McQuaid

WASHINGTON
The Reagan Government has filed suit against the state of Alabama and notified five other southern states that they are failing to uphold federal civil rights statutes at their public colleges and universities.

Civil action filed in the federal court at Birmingham. The Alabama capital, charges that the state has "maintained and perpetuated a dual system of public higher education based on race". The suit contends that qualified black candidates have been denied admission to traditionally all-white institutions, been largely excluded from the teaching staffs, administrative and governing boards, and from the supplementary staffs solely on the basis of race. Black students at all levels are routinely not given the same opportunities as whites in public education, said the government attorney.

The government's assistant attorney general in charge of civil rights enforcement, Mr. William Reynolds, said the legal action came after more than a year of negotiation with the state.

The justice department, he said, "does not intend to discourage further negotiations" in its decision to take the matter to court and will seek resolution, hopefully "short of full-blown litigation".

While civil libertarians applaud the action they also see it as part of a larger campaign orchestrated by the White House to demonstrate President Reagan's commitment to equality in the face of a recent wave of severe criticism from minority groups and his rival party, the Democrats. After Mr. Reagan announced his decision to replace three members of the US Commission on Civil Rights, a number of influential minority groups and

associations vowed they would work to unseat him in next year's national election.

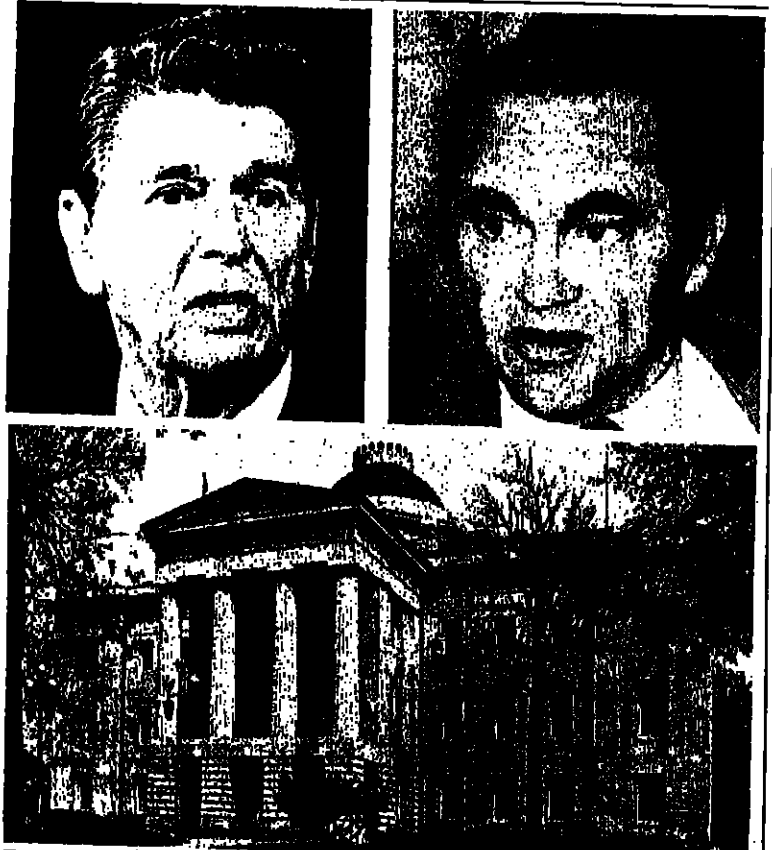
Reportedly the attorney general, Mr. William French Smith, has instructed his deputies to file similar actions against two other states, as yet unannounced.

Elsewhere, the department of education's office for civil rights has rejected the college desegregation plans submitted by Arkansas, Florida, Georgia, Oklahoma, and North Carolina. Agency attorneys notified the states that they have until August 15 to draft acceptable terms or face sanctions which could result in the termination of federal education funds. Several states have been under court order to submit plans for college desegregation by the end of June with strict enforcement proceedings to commence by September 15.

The states outlined their individual desegregation plans in 1978 and are accused of having "defaulted in major respects on plan commitments and on the desegregation requirements" spelled out in the 1964 Civil Rights Act.

The education agency has been reviewing plans, noting that most contain sound features but need additional work. The case with North Carolina, for example, concerns only the two-year college system. A desegregation plan for that state's four-year institutions has already been approved.

This is what makes the Alabama action so extraordinary. In the North Carolina case, longstanding litigation was settled when the government bypassed the attorneys handling that affair and accepted state proposals that were labelled "significantly worse" than plans forwarded and refused by the previous government under Jimmy Carter.



Race row: President Reagan (top left), Governor George Wallace of Alabama, North Carolina state legislature.

The suit charges state authorities, including its controversial governor, Mr. George Wallace, with failing to eliminate "the vestiges of a dual system".

The action also claims that Alabama has provided greater material and financial resources to various agricultural programmes at historically white institutions than to colleges where blacks are the bulk of the student body.

It specifically charges that the state purposefully created a dual system, discriminating on the basis of race,

when it established a branch of the traditionally white state university in the same area served by a traditionally black agricultural and mechanical arts college.

It is anyone's guess what will happen next. In Georgia, where the department of education has criticized a reading and composition exam all students must pass before receiving a college degree, state officials said they had no intention of amending that part of their plan.

Pensions must be equal

from Janet Hook

WASHINGTON

The US Supreme Court has ruled that employers must pay equal pension benefits to men and women. This decision could force major changes in retirement plans offered to faculty members at thousands of schools and colleges.

Ruling in one of the most controversial sex discrimination cases this year, the court said that a federal civil rights law prohibits employers from sponsoring life annuity plans that pay lower monthly benefits to women than to men after they retire.

Payment of higher monthly benefits to men has been a common practice under many pension plans provided by employers - including the more than 3,500 colleges and schools that participate in plans offered by the Teachers Insurance and Annuity Association and the College Retirement Equities Fund. More than 80 per cent of all private four-year colleges and universities and about 40 per cent of all public institutions of higher education participate in these.

Several sex discrimination lawsuits involving university annuity plans now will have to be settled.

A widespread insurance-industry practice calculates payments on the basis of life expectancy tables. Because men, on average, live longer than women and thus are expected to collect benefits over a longer period, monthly payments to women have been lower.

Women's rights groups including the American Association of University Women have criticized the practice, saying it unfairly penalizes the many women who do not outlive their male counterparts.

The Supreme Court held that sex-differentiated pension plans, when offered by employers, violated Title VII of the Civil Rights Act of 1964. That law prohibits discrimination on the basis of sex, race, religion, or national origin in employment practices - including the provision of fringe benefits.

"An individual woman may not be paid lower monthly benefits simply because women as a class live longer than men," Justice Thurgood Marshall wrote in the Court's majority opinion.

Title VII requires employers to treat their employees as individuals.

The case before the Supreme Court challenged a voluntary retirement plan that had been offered to employees of the Arizona state government. But similar suits charging sex bias in TIAA-CREF plans at Long Island University and Wayne State University had also been taken to the Supreme Court.

The justices now have ordered two lower federal courts to reconsider the university cases, and to resolve them in light of the principles set out in the Arizona decision.

Sex discrimination in pensions has also been the subject of heated debate in Congress. Legislation has been introduced in both the Senate and the House of Representatives that would bar sex bias in all forms of insurance and pensions.

The legislation has met with fierce opposition from representatives of the insurance industry.

In a major concession to the insurance companies the court said its ruling would not apply retrospectively.

In an early decision, the Supreme Court ruled on the question of whether another provision of the Civil Rights Act required individuals who allege racial bias to prove that the discrimination was intentional or whether they need prove only that the effect of a practice - such as a last employees must take to be hired or promoted - was racially discriminatory.

In a complex and fragmented decision, the court ruled that proof of intentional bias was not required under Title VII of the Civil Rights Act, which bars racial discrimination in courses including those at education institutions that receive financial support from the federal government. However, the court also said that substantial compensation for victims of discrimination, such as back pay, could not be awarded unless it was shown that the bias was intentional.

Volunteers run radiation risk

from Geoff Maslen

MELBOURNE

Melbourne volunteers who took part in an experiment at Monash University received excessive amounts of radioactive isotope, iodine-131, according to a university report.

International statistics indicate that people carrying excessive amounts of iodine 131 can be at a greater risk of developing thyroid cancer.

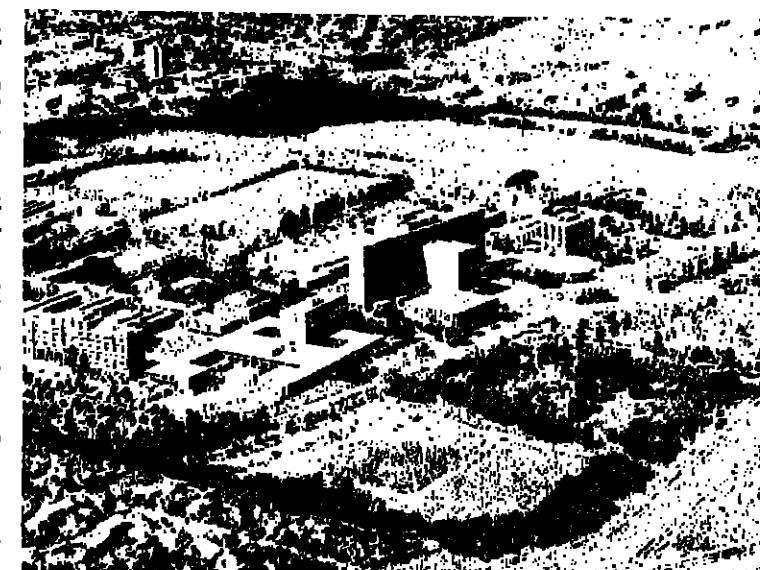
The report states that 46 volunteers received up to 10 times the proper dosage of the radioactive chemical. As a result, three researchers have been banned from conducting further radioactive experiments.

The research, into first aid treatment of snakebites, was carried out with 116 volunteers aged from adolescence to middle age. Dosage to the sensitive thyroid gland averaged about 60 rads for 46 of the volunteers, compared with the recommended level of exposure of 30 rads a year for workers in radioactive industries and three rads a year for the general public.

In one instance, according to data provided by Monash, a volunteer in the experiments may have been exposed over two years to a radiation dose to the thyroid of 240 rads - eight times the annual exposure recommended for workers in radioactive industries.

Many volunteers learned of the experiments through advertisements placed through bushwalking and first aid groups. Two thirds of those involved were students from Monash and the rest were drawn from outside groups. Most were paid about A\$18 to take part in the experiment.

The project involved using different mock snake venom whose action in the body was traced by radioactive iodine isotopes, including iodine 131. But a malfunction occurred in electronic monitoring equipment used to measure the amount of radioactive iodine



Monash University where three researchers have been banned from further radioactive experiments

administered to some of the volunteers. The experiments were abandoned when the malfunction was discovered.

The vice chancellor of Monash University, Professor Ray Martin, said the university took an extremely serious view of the matter. But he said the amount of radioactive iodine taken up by the thyroids of the volunteers were very small. "They were, in fact, smaller than occurs in the routine medical diagnostic procedure which uses iodine 131 to measure thyroid uptake in patients," he said.

Professor Martin said the university had arranged for the volunteers to have medical consultations with medical specialists and that a review of the practices currently followed in the approval of experiments involving irradiation of human subjects would also be undertaken.

Monash students, however, were critical of the university's reaction to the mistake. A spokesman for the students' association said students were not satisfied with the information provided by the authorities.

The association had had extreme difficulty getting any information from the university about the accident. Of particular concern was why the university waited from late last year, when it became aware of the accident, to May this year before volunteers were first notified about the mishap.

The Victorian government has also indicated disquiet over the report. The minister for health said officials in his department were unhappy with the report and had asked for more details.

Members of the special panel are: historian Gordon Wright and psychologist Ernest Hilgard from Stanford, and Ward Goodenough, professor of anthropology at the University of Pennsylvania.

In a telephone interview with a San Francisco newspaper, the 34-year-old graduate student said he plans to appeal against the decision and to take legal action if necessary to receive his degree.

Mr Mosher says he was dismissed because Stanford acquiesced to pressure from the Chinese government.

The student drew international attention by publishing an article in the Taiwan Press explaining China's barbaric birth-control practices in their communes. Photos showing women being aborted during the last stages of pregnancy accompanied the article. The women's faces were not protected.

Mr Mosher says that since the article appeared, the Chinese have begun to reform their birth control practices.

Special panel backs graduate's dismissal

from Charlotte Beyers

PALO ALTO

A special panel of three scholars has decided that Stanford PhD candidate in anthropology, Steven W. Mosher, deserved to be dismissed from the department.

The committee found that Mr Mosher, who was working in a rural Chinese village, showed unethical conduct. He was guilty of a "deliberate disregard for the law of China," and a "manipulative approach towards the people with whom he was living and working".

He was also accused of a "serious lack of candour in his contacts with his professors."

To arrive at the decision that Mr Mosher's conduct was incompatible with being an anthropologist, the panel studied a secret 47-page report which contained the charges and the evidence. "Disclosure of the exact nature of the charges would be inadvisable," said Professor Clifford Barnett, chairman of the anthropology department.

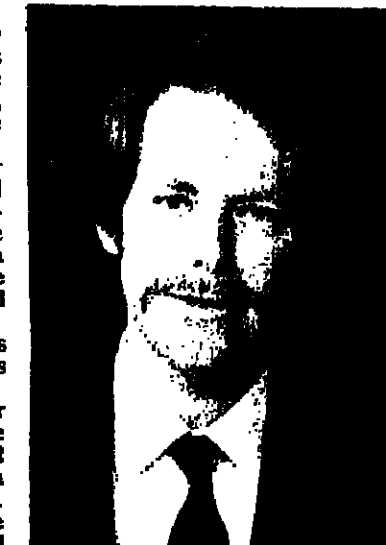
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Steven Mosher; planning to appeal

Educationists called to honour

Eight prominent educationists were named as officers of the French Legion d'Honneur in the governmental *Journal Officiel* published on July 5. They are: Inspector General Jacques Champomand; Alfred Jost, professor at the Collège de France; Aime Lanco, deputy director of the college; Jean Mourat, honorary professor; Philippe Ozouf,

professor at the University of Clermont-Ferrand; Andre Perrin, provost of the Lycée Pasteur at Neuilly sur Seine; Jacques Thill, Inspector General; Lucien Varner, attaché at the academic administration.

A further 29 were awarded the Legion d'Honneur at the grade of chevalier.

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THI

Research gets more cash

from Mark Gerson

MONTREAL
The Canadian government has announced additional funding for two of the country's research support agencies, exempting them from a controversial spending restraint programme.

The Natural Sciences and Engineering Research Council will receive \$2.8m for fiscal 1983/84, an 18 per cent increase over the \$2.38m it was granted in 1982/83. The Medical Research Council is to get \$137m, a 16 per cent increase over last year's \$119m.

Earlier this spring, the two councils were told that their funding would rise between 6 and 7 per cent. In keeping with federal guidelines that limit public sector spending increases to 6 per cent in 1983/84 and 5 per cent in 1984/85, they have now been assured that additional funding will also be available during the second year of the restraint programme.

The Natural Sciences and Engineering Research Council plans to use this year's last-minute budget hike to restore the inflation allowance to existing research grants and scholarships and to award more strategic and equipment grants and postgraduate scholarships.

The Social Sciences and Humanities Research Council is now the only granting agency not promised extra money for the current year. Its 1983/84 budget allocation is nearly \$60m, a 5.8 per cent increase over last year.

Mexican university strike ends in rancour

from Emil Zubryn

CUERNAVACA
The 28-day strike mounted by the National University of Mexico Workers Union (STUNAM), the Metropolitan Autonomous University (UAM) in Mexico City and 10 other provincial universities, has ended on a discordant note.

Respective university unions won no pay increases and will only receive half their back pay for the duration of the walkout.

Earlier in the dispute authorities at the National University of Mexico (UNAM) had offered a token 1,700 pesos (£7.60) a month blanket wage increase, but this was subsequently retracted when the university admitted it was virtually broke and had no possibility of obtaining additional government funds.

Only around 20 per cent of the university's faculty and students re-

turned to the campus after the end of the frustrated walkout. Diehard strikers launched a silent march protesting against government pressure exerted against university unions.

The disorder and growing anger caused a renewed suspension of classes at the Metropolitan University where 12,000 students have organized a movement against government and university authorities in support of the institution's labour union. Again demands are being made for payment of full salaries lost by striking workers, a readjustment of the school calendar and additional subsidies for research and teaching.

The general discontent is ominous and may cause further trouble for the Mexican Workers' Confederation of out that the government used illegal pressure to end the strike.

The UNAM dean, Rivaldo Serrano,

hinted that new legislation might end university strikes "without detriment to workers in the right to strike". How this could be achieved, without seriously constraining the Mexican labour movement, was not explained.

The official pressures used to end the strikes were not evident. Publicly, the Federal Labour Board had set a midnight deadline for unions to accept the half-measure university offers, or face the threat of having their walkout declared illegal. This would have led to the deployment of troops to end the conflict.

Workers and their leaders are also disgruntled by the rejection of what they termed "just" demands, especially since the government, in recent weeks has granted rises of from 10.5 to 15 and 20 per cent to employees of state-owned firms and federal employees.

Amnesty fails to free detained students and lecturers

None of the students and lecturers detained in Kenya last year when Nairobi University was closed after an abortive coup attempt was freed in a recent amnesty for 8,000 prisoners, according to a committee based in London which is working for their release.

The amnesty was announced last month to coincide with a meeting of the Organisation of African Unity and left the impression that large numbers of political prisoners had been released, but the Committee for the Release of

Political Prisoners in Kenya claims that despite considerable international pressure no one detained without trial has yet been released.

Both the university and its associated teacher training college remain closed and unlikely to reopen before elections scheduled for the autumn. A committee of inquiry into the university has reported to President Moi, but its findings have not been published.

An article in the latest edition of the magazine *Index on Censorship* says that the future of the university remains in doubt and claims that academic freedom is regarded as sedition.

Although 61 students were released in February as a result of "presidential clemency", a number of students and lecturers remain in prison. Six students have been sentenced to five or six years imprisonment for sedition. Mr. Malwa Kinyatti, a senior lecturer at the Kenya University College, also received six years and has since had an appeal dismissed.

The author is professor of psychiatry at the Albert Einstein College of Medicine, Yeshiva University, New York. He has also written *Against the State of Nuclear Terror*, published earlier this year by Pan.

Nothing but dry calculators and drudges

Douglas Bethlehem sets out the task facing a truly scientific social psychology

Making a sincere attempt at a scientific social psychology can really be very bewildering, and unusually dispiriting. One is faced with the onerous task of one's colleagues in biological psychology and on the left by that huge majority of social "scientists" who cannot be bothered with science. Public opinion, when it is roused, looks to its intelligence about social science and social psychology. Are not social psychologists in contemporary literature, pitiful and contemptible figures? Do not social psychologists - I heard it said only the other day on Radio 4 - spend an enormous amount of time and (and money) in discovering truths that can be heard any day "the saloon bar"?

What, I wonder, would public opinion have made of seventeenth century science and scientists? At the time when science was taking its modern form, it was not financing their squabbles, so science remained a fairly private matter. Newton's prose, at once around and blunt, napkins his rival, Hooke, when the latter seeks to claim precedence in the "invention of the rule of the decrease of Gravity, being reciprocally as the squares of the distances from the Centre".

"... it is plain by his words he knew not how to go about it. Now is not this very fine? Mathematicians that find out, settle and do all the business must content themselves with being nothing but dry calculators and drudges and another that does nothing but pretend and grasp at all things much carry away all the invention..." And no one can forget his belatedly regal assertion *hypotheses non fingo*, a frequently repeated denigration of the contemptible practice of "fudging hypotheses". The point is that Newton was a dry calculator and drudge - and much more - he did "feign hypotheses".

He made this last assertion about the practice of his Cartesian critics and detractors of inventing *ad hoc* hypothetical entities in order to explain all movement by mechanical causes - that is, by one thing physically pushing another, or escapes, a psychology consisted of structural speculations about a fluid, controlled by valves in the brain;

moving through tubular nerves to move the limbs hydraulically and his physics of structural speculations about vortices in the ether pushing planets and objects on them this way and that. These speculations were invented simply to provide a mechanical explanation for physical movement: they do not even present for the real test of science, being able to predict.

To Descartes's great contemporary, Galileo, we owe the foundation (in modern science) of mathematical-empirical study. While he was no experimentalist - stories about his dropping weights from the leaning tower of Pisa are apocryphal - he was a great observer, developing a greatly improved telescope. Even more important he saw the importance of mathematics in making models of physical phenomena. He, of course, thought of his models as descriptions.

The majority of Newton's scientific contemporaries sought to belittle and ignore his work as long as they could

And he had the faith: in a celebrated passage he began: "Philosophy is written in this grand book, the universe". He went on to assert that the book is "written in the language of mathematics".

And then the original genius of Newton's work burst on the world in a mounting series of explosions. His conceptions were without obsequies to the established modes of thought and assumptions, his mathematics new, brilliant, and difficult, his empirical work in physics (as in alchemy and theology) painstaking, his temperamental difficult. For these reasons, the majority of his scientific contemporaries sought to belittle and ignore his work as long as they could.

Newton's philosophy of science is thoroughly modern in its important respects. He invented axioms or postulates, and hypotheses, to explain physical phenomena, made the first general use of mathematics in model-



ling the physical world and deriving predictions from his theories and tested deductions from these models and predictions. When he roared against the feigning of hypotheses he meant (when he was not calling the phrase up as a term of common abuse) that science could not proceed by making assumptions about the existence of hypothetically real things - like vortices in ether - in order to explain reality in accordance with preconceptions.

The important difference between his theories in physics and those, for instance, of Descartes, is that Newton's theories are able both to explain and to predict the phenomena they deal with. The modern cast of Newton's science is everywhere apparent. He pitted his theory of colours against the one upheld by Hooke in a way which a self-consciously scientific investigator would today. That is, he derived a different implication from each theory about what would follow a set of operations - passing light through two prisms in this case. The consequence predicted by Newton's theory was observed, not the one predicted by Hooke's, and Hooke's theory was therefore refuted.

Logicians and philosophers of science will recognise the form of this argument as *tollendo tollens*. Newton was clear that he was formulating hypotheses and making observations to corroborate or modify them. He saw clearly that framing hypotheses was only the first step in science. His contribution in the area was not to invent an occult force of gravity - he was always anxious about the ontological status of the construct - but in showing by rigorous mathematics that

his suppositions had certain implications and by empirical observation that these implications did actually hold and thus corroborated the theory.

With this background, two questions may occur to the reader. First why is a social psychologist writing about physics, not biological science? Surely if psychology has any claim at all to being a science - which almost everyone, including most social psychologists, prefers to doubt - it is a claim to being a biological, not a physical science. Second, what are the parallels between the seventeenth century scene in the physical sciences and the twentieth century social psychology scene?

Social psychology is faced with an enormous range of phenomena, which we do not yet know how to name and group or classify. Thus it was with physics in the seventeenth century: it was only Newton's theory that leads us to think of all forms of attraction between bodies, outside magnetism, falling into the class "gravitation". It was not clear in Newton's time whether force was best considered to reside in bodies, or whether it was something that happened to them from outside. It is due to Newton's theorizing that the question itself seems ridiculous today.

Some people find the converse equally difficult to come to terms with. Newton invented abstract hypotheses to explain the phenomena to which he was addressing himself, and used abstract mathematics. The point is that if inertia, are not given, they are there to be discovered. Newton's genius was the invention of theories that allow us to perceive an order in physical phenomena. It cannot be taken for granted that physics has an easy subject matter

and social psychology a difficult one. Physical phenomena did not look easy, organized, or homogeneous, in Newton's time.

Social psychology is faced with problems similar to those of early physics, but biological science, in the main, is not. In social psychology we are faced with an enormous range of phenomena which are roughly "social", without a ready-made way of knowing how to start theorizing, what goes with what, or in what form to cast our theories - just as in 1660 it was not clear whether "gravity" was just one power or many (or none), or whether force was something in objects. In biology phenomena are by and large acceptably classified, certain methods and theories are accepted and research is often a matter of exploring and elucidating relations in terms already in use.

Social psychology is not in that fortunate state.

Freud may be psychology's Descartes, a brilliant author of a glittering theory that ultimately has no real scientific import. Social psychologists often seem to distrust rigorous thought and mathematics. One is reminded of a remark made by the author of the recent definitive biography of Newton, Richard Westfall, by a Cambridge student, loftily dismissing one of the greatest intellectuals the world has seen: "There goes a man that writ a book that neither he or anybody else understands".

Social psychology needs to attend closely to what Newton called the "Rules of Reasoning in Philosophy" - the philosophy of science, in modern terms. It needs to borrow some of Galileo's faith in mathematics. It needs to frame explicit hypotheses, explicit axioms, explicit propositions, so that observations and experiments may bring to our attention phenomena "by which" (to quote Newton's words) "they may either be made more accurate, or liable to exceptions".

We in social psychology may not have had a Newton, but we have had our share of able men and women. In the 1920s and 1930s, for instance, L. L. Thurstone made a fundamental contribution to applied and mathematical psychology with his theory of attitude measurement. Students graduate today without even seeing the need to understand it.

In our universities, education, or Education, is an *epi-phenomenon*. We ask our students to concern themselves with the minutiae of the language of *Beowulf*, of the proofs of mathematical theorems, or arguments about the relation of body and mind, and education occurs. Paradoxically, if we try self-consciously to educate our students, we will fail. The paradox facing social psychology is similar. Only by contenting ourselves with being dry calculators and drudges will we ever be anything more.

The author is lecturer in psychology at the University of Leeds.

Straight talking beyond the fringe

How do university staff fare? On the whole, their diet is sparse and unappetizing. They get the explanatory booklet, but that is the only item distributed directly and automatically - and as the latest offering in the first reprint for eight years. Single copies of the annual report and accounts and of the trust deed are lodged with local Association of University Teachers offices, where members may consult them.

The presentation of the accounts is unlikely to win the Golden Pen award presented annually by the National Association of Pension Funds to the organization which lays out the information most suitably, but maybe a covert compliment to the fairly far from form. In order to achieve some movement on the dissemination of information, the AUP has been prepared to produce and circulate a pension scheme information leaflet.

On individual benefits, there is a lacuna. Many schemes are now able, through computerization, to provide an annual statement of the precise benefits which have accrued to an individual scheme member at a specific point of time - lump sum entitlement, prospective pension, etc. University staff receive no such regular statement.

Again, maybe academics are more carefree than other categories of employee about their future. But the lack of information is all the more striking since the university scheme has two member trustees on its management committee. Our research shows that where there is employee representation at this level the automatic provision of individual benefit statements rises to nearly 80 per cent. Indeed, this is where employee participation has its main impact.

The university scheme is not exceptional in its approach to the distribution of information. But we suggest that three factors will greatly increase the pressure on it to be more positive in its policy. First, most people will want to know where they stand as individuals. This is especially true of people who leave the scheme, and even more so of those (primarily contract researchers) who leave before completing five years' service and automatically forfeit the right to participate in the scheme. This involuntary contribution to the scheme amounted, we calculate, to around £3m last year.

Second, the negotiating partners will be forced to take a more direct interest in the scheme's funding position. Occupational pension payments are now a very significant factor in many organizations' total costs, and will play an increasing role in negotiations. This year has already seen the firemen threaten industrial action over increased employee contributions and police pay also affected. University staff may in the future find themselves experiencing similar problems of these public sector colleagues. The universities have been obliged to step up their contributions to the fund. Although so far the extra resources have come from central government, it is not at all unlikely that the level of both sides' contributions will be brought into future negotiations, with pay and other benefits being traded off against pensions.

Third, the use of the fund will attract closer attention from members, the pensions industry and from politicians of all sorts. Investment overseas is the issue that has generated most publicity, but it is the broader question of the general criteria for investment which is likely to dominate the debate in the future. The university scheme, being among the biggest of the funds, will attract its share of the calls for accountability. There will in all likelihood be a variety of differing interpretations of what "accountability" means in this context. They would all agree on information as a key component of it.

Tom Schuller
Jeff Hyman

The authors are research director and research fellow at the Centre for Research in Industrial Democracy and Participation at the University of Glasgow.

by Peter Hamilton

Love and Power in the Peasant Family: rural France in the nineteenth century
by Martine Segalen
translated by Sarah Matthews
Blackwell, £15.00
ISBN 0 631 12626 0

Any visit to Paris should include a trip out on the Metro to the Bois de Boulogne. Get off at Sablons and walk towards the Bois. On its edge, nearly in among the plush houses and apartment blocks of Neuilly you will find the Musée des Arts et Traditions Populaires - more commonly known as the ATP. A modern glassy building, it sits appropriately on the fringes of the Jardin d'Acclimatation, the genteel Parisian cross between the late-lamented Battersea funfair, and a playground. For those who are interested in the rich cultural heritage of rural France, the ATP is designed to delight.

But the ATP is not just a museum. It is also the organizational and symbolic headquarters of French domestic ethnography, where research teams from the Centre National des Recherches Scientifiques (CNRS) are engaged in the collection and interpretation of the incredible variety of cultural artefacts produced by France's peasant populations. It contains the work of such notable figures as van Gennep, (1873-1957) whose *Manuel de Folklore Français Contemporain* (1943-1958) symbolizes the crossroads between the amateur "folklorisme" of the nineteenth century and modern French ethnography, and who was instrumental in the formation of the ATP in 1937. Van Gennep's rigorous classification of ethnographic artefacts based on the insights into peasant ritual and customs summarized in his famous book *Rites de Passage* (1909) forms the basis of much modern French ethnography, and indeed its principles are still evident in the systematic presentation of the articles displayed in the ATP.

Van Gennep moved beyond the purely scientific collection of folkloric material to be the aim of men like Paul Schill, whose massive *Folklore de France* (1904-7) attested to the feverish interest in "collecting" the culture of what was thought at the end of the nineteenth century to be a rapidly disappearing traditional world. Much of this material is housed at the ATP. Van Gennep's *Rites de Passage* formed the turning point in the progression of ethnography from pastime to systematic science.

Martine Segalen's work is situated in the mainstream of French historical ethnography. A Chargée de Recherches at CNRS/ATP, her research has been mainly concerned with the family, matrimonial strategies and the status of women in traditional rural society.

The role, status, authority and sexuality of peasant women in traditional French rural society were not well documented hitherto, for the peasant family has only with reluctance given up its secrets to the ethnographer, sociologist or historian. There are few examples of peasants recording what their lives were like, and until Mme Segalen's work (contained in an impressive series of publications over the last dozen years, and including a major exhibition at the ATP in 1973 on *Husband and Wife in Traditional Rural France*) the area of sexual and emotional relations was largely left to one side for lack of information. What Martine Segalen has done in a number of publications, on the choice of marriage partners in upper Normandy, on marriage, love and women in French popular proverbs, and on the rituals and customs surrounding stages in the life cycle of the peasant family constitutes a major contribution to our knowledge of the daily life of rural people in France during the last two centuries. Her approach owes much to van Gennep's theories about *rites de passage*, but moves beyond that approach in employing much of the panoply of structuralism to interpret custom, ritual and sayings; her inspired and imaginative

BOOKS

Realities of peasant marriage

use of the proverbs employed by peasants allows them to speak to us about their lives and feelings.

Mme Segalen's book - sympathetically and efficiently translated by Sarah Matthews - is constructed around a major dispute among historians and social scientists concerning the "rise of the couple". For some, pre-industrial society meant the primacy of "instrumental" over "affective" values - which, decoded from sociological jargon means that peasants (and many others) married more for economic or material gain than for sentimental reasons, and that their married lives were for the most part the loveless unions of work partners more concerned with survival than with affection. Both Edward Shorter in his controversial *The Rise of the Modern Family* (1976), and Eugen Weber in his *Peasants into Frenchmen* (1977) have been influential in arguing this position. Jean-Louis Flandrin, among others, has opposed this view. In his *Les amours paysannes* (1975) Flandrin argues that the evidence of illegitimate birth statistics from 1500 to 1900 indicates a rising trend in "love" among peasants almost an "explosion" of amorous feelings. Rather than being characterized by a lack of affective emotion or sentiment, pre-industrial peasant family life was instead profoundly marked by such values.

Love and Power in the Peasant Family is a careful and richly documented study of relations between man and wife in the rural France of the nineteenth and twentieth centuries. The world which Segalen describes is one in which the social order has its clear symbolic representation - a cultural order of great richness but one which serves to bind and legitimate the roles of men and women, husbands and wives, in coherent and well defined relationships. Such relations are established through the enactment of *rites de passage*, such as that observed in the Orléanais at the beginning of the nineteenth century.

The fathers and mothers of the married couple, after having led them into the nuptial chamber and shut the door on them, made the husband sit with his behind in a bowl of water, and all cock-a-doodle-do three times, while his bride was made to kneel in front of him and answer cluck-cluck three times, being the song of the hen after she had laid an egg.

The symbolism of cock and hen is so closely associated with men and women's domestic and sexual roles that there are numerous proverbs which foretell death for those hens who try to play the cock - especially relevant to those women who would make sexual advances to their husbands after the fashion of things:

Quand le poule recherche le coq, l'amour ne vaut pas une noix.
When the hen seeks out the cock, love isn't worth a fig (Limousin)

Nevertheless, as Segalen indicates, the "natural" order had to be created or negotiated in the first place, hence the variety of responses which could be made in any ritual situation. Thus, how the woman responded would determine the relations between her and her husband thereafter - for example in the Loire, where as part of the marriage rite, the wife who has not hoed her garden by the end of April finds a straw man set up in it, admonishing her for her sloth. The adulterous couple might see themselves mimicked by young people, or find trails of rotting "vegetables" linking their houses together. Wife beaters in Upper Brittany were dealt with by the whole community, being caught and paraded around the village in a barrow, husband beaten over the shoulders with a symbolic inversion of the natural order: in Valenciennes, for example, "The man who allowed his wife to beat him mounted a donkey, holding the donkey's tail in his hand, while his wife, mounted on the same animal, held the bridle and

In Tarn, "if the log burned until New Year's day, it was the husband who ruled the household. If not it was the wife. If the log caught light by the smaller end, and if that end was the first to be consumed, the wife would rule the household for the year".

The multiplicity of such customs and the rituals associated with them, Segalen argues, attest to the fact that "beyond the framework of civil and Church law, the question of authority between the couple is still an open one" (page 36). There is, of course, a certain ambiguity built into the rituals - as with proverbs, any one can read what they want into them: normative codes, their mediation into behaviour remains a process in which peasants are voluntaristic actors.

One of the problems with the arguments of Shorter *et al* is that they rely too heavily on the impressions of unsympathetic bourgeois observers of rural life. Victor Hugo's brother Abel, for example, in his *La France Pittoresque* - a widely quoted source - seems too often over-concerned to compare peasant behaviour with the urban morality of Parisian life. As Segalen says, so much of peasant affection was transmitted through gestures whose symbolism would often have escaped the traveller in search of exotica, all too ready to rely on (and no doubt embroider) the lurid tales of small-town notables. Such observers would have been almost incredulous at the rough courtesy of Breton peasants, who threw pebbles at one another, thumped each other on the back, gave hefty blows to knees and shoulders and squeezed fingers so hard as to occasionally dislocate them; the force of the blows being supposed to indicate the strength of emotion.

Bourgeois morality would have been offended by this evidence of peasant "brutality", thus conveniently ignoring the fact that a different code of love gestures might exist in peasant communities, where courtesy by blows might be an effective way of measuring the physical capacities of a future wife, important in the hard physical labour which constituted so much of peasant life.

Segalen shows how what are nowadays regarded as the intimate, personal details of a couple's life were formerly the responsibility of the rural community. She is thus led to question the notion of a "couple" as a separate entity. Because in the rural world social organization and the organization of labour are "fundamentally communal", the emergence of a nuclear family based around the couple has, she maintains, emerged slowly in peasant communities. For her, the notion of a household is a more useful concept to describe the domestic organization of the lives of peasant men and women. It expresses more fully the interconnections of family life and community life which are so typical of traditional peasant societies. But it also allows her to demonstrate how male and female roles are interdependent and complementary, and to question the conventional view of peasant women as subordinated to male authority, which again has arisen in part because of the gullibility of some authors using the folklorists' accounts at face value.

In the carnival (*charivari*) the interpenetration of family and community are brought directly into view: the wife who has not hoed her garden by the end of April finds a straw man set up in it, admonishing her for her sloth. The adulterous couple might see themselves mimicked by young people, or find trails of rotting "vegetables" linking their houses together. Wife beaters in Upper Brittany were dealt with by the whole community, being caught and paraded around the village in a barrow, husband beaten over the shoulders with a symbolic inversion of the natural order: in Valenciennes, for example, "The man who allowed his wife to beat him mounted a donkey, holding the donkey's tail in his hand, while his wife, mounted on the same animal, held the bridle and



In a nineteenth-century print from Pellerin in Epinal, a man and woman fight over a pair of trousers.

guided it. In this manner they were obliged to go all around the village preceded by music and young people". What this meant was that in traditional French peasant communities, families were very much more interdependent than is now the case: everyone was answerable to everyone else, and an infraction against a husband or a wife had repercussions for the entire community.

The maintenance of social cohesion was thus the responsibility of the entire village which in its ceremonies and rituals would provide a public admonishment to anyone who transgressed the moral code. Since these codes were closely linked to matrimonial and other strategies designed to safeguard the peasant household and ensure the continued subsistence of its members, rules about endogamy, relations of authority, and the "proper" division of labour fell into place as the cultural supports of a peasant mode of production. Those rituals in which the victim is a browbeaten husband were not designed to protect him, nor to condemn his wife. Rather, they were aimed at the husband's failure to control his own household. His weakness constituted a danger to the entire social order of the village.

The argument put by Martine Segalen is thus subtly different from that of Weber and Shorter. Where they find an absence of affection and emotion in relations between husband and wife because of the lack of evidence that a recognizable peasant "couple" existed, Segalen argues that intrinsically romantic relationships are not ruled out simply because wider family, household and community played such an important part in the relations between the sexes. Because the "couple" did not have the same social or cultural significance as it has today is no reason to suppose that the feelings of love and affection we associate with it were absent in previous historical periods. The frequently observed lack of privacy afforded to husband and wife by peasant housing, for example, has been used as evidence that "normal" sexual relationships between husbands and wives would have been constrained. However, such a reading betrays a certain ethnocentrism on the part of the observer, bred of the conventions of "modern" relationships where sharing a bed and having sex are unthinkable: associated with barnyard, cowbarn, copes and fields presented plenty of other opportunities for sex to people less hidebound by the automatic connection bed = sex.

None the less, the full expression of female sexuality does seem to have been strictly monitored in order to maintain the "natural" order, by most peasant cultures: as we have seen the hen/cock imagery is often used to this end, but other allusions may also be employed: *Femme couchée et bois débout, homme en vie jamais le bout*. A lying woman and standing wood, a man will never see the end of them (Anjou). It would be wrong, however, to give the impression that this fascinating book is solely concerned with the cultural and symbolic aspects of peasant family life. Mme Segalen is quite clear that the relations between household and family members have to be seen in terms of the organization and structure of production in the agricultural and rural-craft family. She is particularly enlightening about the actual distribution of tasks between the sexes, indicating how both men and women were typically involved in various aspects of farm work. The all too easy assumption that women's work is confined to the "home" or the "domestic" sphere, breaks down in face of the evidence - which shows men and women engaged in complementary activities. Certain tasks were reserved to each of the sexes - although again, considerable regional variation is evident in this domain as in all the others. Women are to be found milking cows, raising calves and pigs, keeping geese, making cheese as well as carrying water, cooking, cleaning and mending clothing, and so on. Men in fact also cooked - although theirs was a carefully delineated type of cuisine involving grilling rather than the "feminine" boiling and simmering, which was carried out on festive occasions and in their own symbolic domain, usually outside the house.

In sum, then, this is a rich, and lively book, casting new light on so many aspects of French rural life in the nineteenth and twentieth centuries. To use Peter Laslett's apt phrase, it describes a "world we have lost"; one which has melted away with the agricultural modernization and urbanization of the postwar French economic miracle. Our colleagues across the Channel are indeed fortunate to have, not merely the ATP itself, but also a rich network of regional museums devoted to portraying the cultural heritage of the peasant world. It should be noted, however, that British sociologists are belatedly turning to the ethnography of our own rural cultures, and it is to be hoped that they will feel encouraged in their efforts by the success of books like Martine Segalen's.

Peter Hamilton lectures in sociology at the Open University. He is currently writing a "Social History of Rural France 1789-1981".

Patrick Rabbitt

Research & Studentships continued

**HUMBERSIDE COUNTY COUNCIL
SOCIAL SERVICES/HUMBERSIDE COLLEGE
OF FURTHER EDUCATION**
Research Officer
 SO1 £9,060-£9,660

This full-time post is jointly funded by the Social Services Department and the Humberside College of Higher Education for a fixed term of two calendar years from 1st September, 1983. The person appointed will be based in the Planning, Training and Research Section of Social Services Headquarters at County Hall, Beverley. The duties pertaining to the post will relate to both the Social Services Department and the College of Higher Education. This appointment is a new departure that will provide challenging opportunities for the person appointed. In the first instance the duties will entail an involvement with matters relating to the European Social Fund and to Information Technology using micro-computers. In addition there will be some teaching duties in the School of Applied Social Studies. The person appointed will be a graduate. A relevant degree and/or a Social Work qualification will be an advantage. Knowledge of research techniques and statistical methods is a requirement. Previous teaching experience will be helpful but may not be essential. Candidates must hold a current driving licence and a casual user car allowance (not exceeding £1,450 or rate) will be payable. Assistance with relocation expenses may be granted in approved cases. Internal enquiries may be made by contacting Mr B. Paynter, 0462 487131 (Ext. 3106) or Mr A. Harvey 0462 42167. Application forms and further details are available from: The Director of Social Services, County Hall, Beverley, North Humberside. Closing date 5th August, 1983. Full and fair consideration will be given to all disabled applicants.

**The University of
Manchester
RESEARCH
ASSISTANT IN
SOCIOLOGY/ANTHROPOLOGY**

Applications are invited for a research assistant in the Department of Sociology and Anthropology. The post is for a fixed term of two years, from September 1983 to August 1985. The successful candidate will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £9,000 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

**POLYTECHNIC OF
CENTRAL LONDON**

The following Research posts will be available from 1st September, 1983 for a two year appointment in the Research Department.

Social and Industrial Policy Researcher A - A history graduate to work on a 20th century study evaluating relations between the industrial sector and the state. The post holder will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £9,000 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Social and Industrial Policy Researcher B - An economics graduate to work on a 20th century study evaluating relations between the industrial sector and the state. The post holder will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £9,000 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Social and Industrial Policy Researcher C - A sociology graduate to work on a 20th century study evaluating relations between the industrial sector and the state. The post holder will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £9,000 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Application forms and further details are available from the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL. Closing date Monday, 1st August, 1983.

Polytechnics

**Teesside Polytechnic
Department of Social
Sciences**
**TEMPORARY
LECTURER GRADE II
IN SOCIOLOGY**

Salary: £11,200 p.a. Applications are invited for a temporary lecturer grade II in Sociology. The post is for a fixed term of two years, from September 1983 to August 1985. The successful candidate will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £11,200 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Application forms and further details are available from the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL. Closing date Monday, 1st August, 1983.

**City of London
Polytechnic**
**LECTURER II/
SENIOR LECTURER
(63/60)**
**TEMPORARY HALF-
TIME LECTURER II
(85/61)**

Applications are invited for the above posts to the City of London Polytechnic. The posts are for a fixed term of two years, from September 1983 to August 1985. The successful candidate will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £11,200 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Application forms and further details are available from the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL. Closing date Monday, 1st August, 1983.

Personal

URGENT: ADVANCE £100 to be paid by 1st August 1983. Applications are invited for a personal assistant. The post is for a fixed term of two years, from September 1983 to August 1985. The successful candidate will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £11,200 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

**DEPARTMENT OF ACCOUNTING AND FINANCE
LECTURER GRADE II/SENIOR
LECTURER IN ACCOUNTING**

Applicants will be required to teach to an advanced level on degree and professional courses and should preferably have a knowledge of computers and their applications.

**DEPARTMENT OF BUSINESS STUDIES
LECTURER GRADE II/SENIOR
LECTURER IN MARKETING/
BUSINESS POLICY**

A person with a relevant first degree plus a higher degree and/or appropriate industrial experience is required to contribute to teaching and research in the above area(s).

**DEPARTMENT OF ELECTRICAL AND ELECTRONIC
ENGINEERING
LECTURER GRADE II/SENIOR
LECTURER IN ELECTRICAL AND
ELECTRONIC ENGINEERING**

Applicants should preferably have some experience in the field of linear electronics or communications engineering, or Computer Engineering.

**DEPARTMENT OF PHYSICAL SCIENCES
LECTURER GRADE II/SENIOR
LECTURER IN PHYSICS**

Applicants must have experience of teaching modern physics instrumentation.

**DEPARTMENT OF SOCIAL STUDIES
LECTURER GRADE II/SENIOR
LECTURER IN NURSING
STUDIES (HEALTH VISITING)**

The person appointed will be a qualified health visitor. A degree and/or qualification in health visiting and teaching qualification recognised by the Panel of Assessors in District Nursing would be an added advantage.

Salary scale: £7,315-£13,443. Further details and form of application are available from The Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date 10th August, 1983.

**TRENT
POLYTECHNIC
NOTTINGHAM**
HONG KONG BAPTIST COLLEGE

Applications are invited for the following posts:

1. Assistant Librarian

Applicants should have a recognised university degree and a professional qualification in librarianship (M.L.S. or A.L.A.) and at least 3 years of post-qualification cataloguing experience in a large academic library. Knowledge of foreign language and practical experience of computerised systems would be an advantage. The appointee will be responsible for cataloguing and classification of monographs, serials and non-print materials, and co-ordinating automated cataloguing systems.

Salary scale: HK\$6,800-11,800 p.m. (present) HK\$7,870-14,010 p.m. (revised) Pending government approval.

2. Lecturer in Communication

Applicants should have a good honours degree or a higher degree in filmmaking or communication. The appointee is required to teach filmmaking, theories and practices, editing, sound, and directing.

FRINGE BENEFITS: Provident Fund or Gratuity, Medical Benefits, Vacation Leave and Housing Provision for overseas appointees.

Application forms are obtainable from the Personnel Office, Hong Kong Baptist College, 224 Waterloo Road, Kowloon, Hong Kong. Completed forms together with copies of testimonials should be returned by August 12, 1983.

**POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA**
**MICROCOMPUTER ADVISORY CENTRE
Temporary Lecturer
Grade II In Computing**

An energetic person is required to teach and run open access courses in programming and other aspects of computing. The ideal candidate will have significant experience of computing including the use of microcomputers. He or she will have some experience of teaching adult students, and preferably experience in administration outside the education field. Emphasis is more on software and the use of computers than on hardware or computer theory.

The Microcomputer Advisory Centre has been set up specifically to develop new courses outside the normal undergraduate environment and there will be every opportunity for innovative work.

The appointment will be for one year only. Salary will be in the range: £3,154 (x10) - £12,807 p.a. inclusive of London Allowance. Those interested should telephone 01-582 2886, Ext. 2466 for information.

Application form and further particulars from the Staffing Office, Tel: 01-582 2886, Ext. 2466.

Closing date for receipt of completed Application Forms will be 26th August, 1983.

URGENT
**ROBERT GORDON'S INSTITUTE OF
TECHNOLOGY, ABERDEEN**
**BUSINESS SCHOOL -
INFORMATION TECHNOLOGY -
OPERATIONS RESEARCH**

Graduate with experience of the production/operations function and knowledge of computing and statistical applications required for honours and unclassified degree level teaching, participation in service teaching, research, consultancy, short course and associated administrative activities of the School. Previous lecturing experience desirable but not essential. Salary range: £8,313-£13,125 per annum. Placing according to qualifications and experience. Assistance with removal expenses.

Details from Secretary, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen AB9 1FR. (0224 636611).

**POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA**
**FACULTY OF THE BUILT ENVIRONMENT
DIVISION OF MATHEMATICS
SENIOR LECTURER/LECTURER II
IN COMPUTING WITH MATHEMATICS AND/OR
STATISTICS**

(Ref: DM10) Applications are invited from Honorary Graduates or the equivalent to teach computing with Mathematics and/or Statistics on degree (CNA) and diploma courses.

Professional experience with computer applications would be an advantage. Salary will be in the range: £11,822 (x10) - £14,382 p.a. inclusive of London Allowance. £3,154 (x10) - £12,807 p.a. inclusive of London Allowance.

Further details and form of application are available from The Staffing Office, Polytechnic of the South Bank, Borough Road, London SE1 0AA. Tel: 01-582 2886, Ext. 2466.

The closing date for receipt of completed application forms is 8th August, 1983.

**Plymouth Polytechnic
Study of Planning and
Urban Design**
**RESEARCH
ASSISTANT**

Applicants are invited for a research assistant in the Department of Planning and Urban Design. The post is for a fixed term of two years, from September 1983 to August 1985. The successful candidate will be responsible for the day-to-day running of the department's research projects, including the preparation of reports, the collection and analysis of data, and the supervision of research students. The post holder will also be responsible for the maintenance of the department's research facilities, including the library and the computer centre. The successful candidate will be expected to have a degree in Sociology or Anthropology, and to have some experience of research work. The salary for this post is £9,000 per annum. Applications should be sent to the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL.

Application forms and further details are available from the Director of the Department of Sociology and Anthropology, The University of Manchester, Oxford Road, Manchester M13 9PL. Closing date Monday, 1st August, 1983.

Further particulars are available from the Personnel Office, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA. Tel: 01752 234111. Closing date August 1983.

Application forms etc. from the Personnel Office, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA. Tel: 01752 234111. Closing date August 22, 1983.

Colleges of Higher Education

Norfolk County Council
**Norwich City College of
Further & Higher Education**
Vice Principal

Consequent upon the appointment of the present Vice-Principal, Dr J. S. Lewis, as Principal of the College, applications are invited for the above appointment w.e.f. 1st January 1984 (or earlier if available).

Salary at the appropriate point within the Group 9 Vice-Principal Range is, £21,200.

Application forms and further particulars may be obtained by sending a large stamped addressed envelope to the Chief Administrative Officer, Norwich City College of Further & Higher Education, Ipswich Road, Norwich, NR2 2LJ to whom completed forms should be returned by Friday 2nd September.

**REMINDER
COPY FOR CLASSIFIED ADS
IN THE
TIMES
SHOULD ARRIVE NO
LATER THAN 10 A.M.
MONDAY PRECEDING PUBLICATION**

Colleges of Higher Education continued

**SOUTH GLAMORGAN COUNTY COUNCIL
South Glamorgan Institute of Higher Education (Cardiff)
FACULTY OF SCIENCE**
LECTURER GRADE I IN FOOD TECHNOLOGY

Applicants should possess a degree in Food Technology or equivalent preferably with some industrial or research experience. The successful applicant will be required to undertake the teaching of general and specialised Food Processing to HND and OTD courses. Salary Scale: £5,949-£9,755. Further particulars of these posts and application forms may be obtained from the Personnel Officer, South Glamorgan Institute of Higher Education, Cyncoed Centre, Cyncoed Road, Cardiff CF2 6XD. Completed applications should be returned within fourteen days of the appearance of this advertisement. Ref: L144.

**Nene College
LECTURER II
OR SENIOR
LECTURER IN
MANAGEMENT
STUDIES**

Applications are invited for a part-time lecturership in Management Studies. The successful candidate should have a good honours degree and preferably higher degree with research experience. The successful candidate should be able to teach in the field of Management Studies. Salary Scale: £5,949-£9,755. Further particulars of these posts and application forms may be obtained from the Personnel Officer, Nene College, Northampton. Ref: L144.

**King Alfred's College
Winchester
PART-TIME
LECTURER IN
GEOGRAPHY**

Applications are invited for a part-time lecturership in Geography. The successful candidate should have a good honours degree and preferably higher degree with research experience. The successful candidate should be able to teach in the field of Geography. Salary Scale: £5,949-£9,755. Further particulars of these posts and application forms may be obtained from the Personnel Officer, King Alfred's College, Winchester. Ref: L144.

Home Exchange

Further details on exchange of homes available from: The Home Exchange Centre, 35 Northampton Square, London EC1V 0AX. Tel: 01-253 4444.

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**Middlesex
Polytechnic
SENIOR FINANCE
ADMINISTRATOR**

£11,457 - £12,771 p.a. inc.

An important senior appointment to assist the Finance Director in the management of the Finance Department, with particular emphasis on the financial aspects of its operation.

Responsibilities will include the development of financial policy, the preparation of financial statements, the control of expenditure, and the management of the department's resources.

Applicants should have a degree in Finance or Accounting, and a minimum of five years' experience in a similar post. The successful candidate will be expected to have a good knowledge of the financial aspects of the college's operation.

Initial salary is in the range £11,457-£12,771 p.a. inc. pension, 14 days' holiday, and a car allowance of £1,115 p.a. inc. VAT.

Expected age of successful candidate is 35-45 years. Only those candidates who are able to work full-time need apply.

Particulars from the Director of Finance, Middlesex Polytechnic, Hendon, Middx. HA5 2HT. Tel: 0181 275 1111. Closing date 1st August 1983.

Write quoting ref V1029 for further information and application form. Personnel Office, Middlesex Polytechnic, Hendon, Middx. HA5 2HT. Tel: 0181 275 1111. Closing date 1st August 1983.

Further details on exchange of homes available from: The Home Exchange Centre, 35 Northampton Square, London EC1V 0AX. Tel: 01-253 4444.

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Don's diary

Monday

Twenty pairs of eyes of Brixton and Clapham further education students stare at me, their American teacher. Today I attempted to teach Macaulay's "The Keeping of the Bridge", which is required in the O level syllabus in the narrative verse section. Although Carol, a colleague who teaches literature, had managed to inspire in me some enthusiasm for the poem on Friday evening over dinner in an Indian restaurant and although I have met many English people who can recite the poem by heart, I feel by adhering to the syllabus I'm killing what love of literature these students might have. Why doesn't the syllabus reflect something of the African, West Indian and Indian eyes in front of me? In an introductory literature course in New York City I would include writers by Black and Hispanic influences. I feel so constrained by the syllabus.

In the afternoon I spent two hours with Technician Education Council certificate students teaching them how to fill in John Laing application forms for jobs in the construction industry. Their tutor has told me that probably not more than one out of twenty of them will ever hold a regular job. Consequently, they don't take themselves seriously and are a difficult class to manage. Thomas spent the class in fear of being arrested by the police. When I assured him I wouldn't allow any police in my classroom, he was much relieved.

Tuesday

"Miss, we'd be good if you gave us sweets." This from Amarjit, a pretty Indian student who sits in the front row. I am amazed. Is this a college? Tuesday's class is always difficult because I last only one hour instead of the usual two. It is best to give them written work immediately. Otherwise, the Avon catalogue, which they prefer to narrative poetry, wins.

Emily, my friend from Long Beach State University in California, visited today. There was concern among the senior lecturers because I hadn't informed the principal that she was coming. Used to American informality, I apologized but also wondered why I should introduce her to the principal when I as a Fulbright exchange teacher have not yet been introduced to him.

After English literature came communication studies for diploma TEC. Emily, looking grey and weary, told me she had to leave. My TEC diploma group, my most academically able group next to my A levels, arrived as usual 15 minutes late except for faithful Jeremy and Doris. Because they had taken an assessment last week, I showed them a film on pollution entitled *And on the Seventh Day*. Quinton's response was: "Oh, Miss, the United States must be a mess," yet the film was describing parallel situation in both countries.

Wednesday

My six-hour day which I find difficult because I'm used to teaching only 10 hours a week at La Guardia as opposed to twenty-two hours and eight hours of ancillary in London.

So two hours of narrative poetry. A good class today. Then on to my literature. I have an entire class of wall and floor tiles. They are 16, white, employed as apprentices - illiterate and stumpy (a new word in my vocabulary). Today they were filled with apologies. Richard, for expending during class heart-shaped tattoos on his bum and Tony for pulling a knife on another student who took his seat. I hadn't taken the tattoos too seriously, but the general education department insisted on my writing a formal report on the incident.

The knife, however, was more concerning to me but of less concern to the college. I may be a New Yorker but never has a student pulled a knife in class in any of my years of college teaching. I requested that the student not be admitted to class but received no support. I was afraid to face Tony,

today, but he was contrite.

Class was spent teaching them to write letters to the principal or to the Inner London Education Authority. The subject of the letters was the increasing violence at Vauxhall and what to do about it. One of the third-year tilters was beaten up last week.

Thursday

My only class on Thursday is a three-hour English language O level for part-time day students. Most of the students are in their 20s or early 30s. Today we start with a multiple choice reading test on birds from last year's examination. Multiple choice has recently been added to the exam and these students are mystified by it.

Then we finish last week's essays on description. Their writing is improving, but how many students will have eight passing essays in their folder by exam time? Although Maria writes a sensitive description of her town in Portugal that makes tears come to my eyes because of her ability to use words precisely and Jennifer writes a wonderfully political description of the Detroit fire, I feel I have not taught these students nearly as much as I do in New York.

What a different philosophy of literacy there is here. The use of dictionaries is discouraged; instead spelling rules are taught. No essays may be rewritten. In a meeting I commented that I would never submit something I had written before I showed it to various friends and then rewrote it. The answer: "These students are not like you, Susan." But without rewriting how do you teach a person to write? Instead I am told: "This student is not O level material." I retaliate by grinning at my students and saying: "Don't let anyone tell you that you aren't O level material. You may not be ready in June but in another year you could." Am I being too American?

Friday

By Friday I am exhausted. The unwritten rule in the States of two hours of preparation for every hour of teaching is impossible for me to maintain. Yet if a class doesn't go well, I feel defeated.

My A level literature students seem as tired as I am. They drag in 20 minutes late. My job is to teach them how to do practical criticism. Once a week I give them a poem, a prose passage, or a dramatic excerpt to explicate. The following week we discuss it. The students are resistant: "Could we discuss it first and then write on it, miss?" They lack the desire to struggle with a text, to risk being wrong.

To change the pace of the classes Carol and I did a class together on *The Winter's Tale* last week when I had a break from my illers. What rich, playful discussions we have. The students were mystified at how the two of us could have such fun discussing literature.

Then on to general studies for personal assistants. I am to teach them in two hours a week the cultural, aesthetic/historical/political section of the exam and help them do their projects in-depth. Today we discuss the development of Channel 4 and whether or not it is fulfilling what it set out to do.

Friday afternoon I cover one hour for Sue's pre-vocational students, the famous 3-C group. Sue is off on a geography trip to Wales. They are as raucous as ever. I let them talk about their lives and try to learn from them. From 4pm to 5pm I'm to cover for an English as a second language class. The inebriated lecturer has left me what he wanted me to teach: a lesson on how to apologize. Fortunately, no students turn up.

Susan O'Malley

The author teaches at Kingsborough Community College, New York, and is at present an exchange lecturer at Vauxhall College of Building and Further Education, South London.

John Taylor, the former chief education officer for Leeds, who died last month at the age of 72, was one of the last of a generation of remarkable education officers who had a profound effect upon the educational scene in the post-war years. For many professional educators and readers of this and his sister journals that scene must be so familiar that it can be taken for granted. I came into it a little over 10 years ago and I still find its quirks and foibles fascinating. So I want to use John Taylor's department as an excuse for a few comments upon one of the more definitive episodes in our recent history.

The problem with John Taylor is that he was one of nature's listeners rather than talkers. I found that peculiarly a challenge because I myself come from a family of compulsive talkers, a large family of 12 at that. They all talk all the time. Inevitably such talkers attract other talkers so that the house buzzes with overlapping conversations and sometimes people go away shaking their heads in frustration. I remember as a small boy going into my father's study and seeing him talking with Stanley Spencer, his brother Gilbert and another brother whose name I never knew. They were all compulsive talkers and they were all talking at once. I have since met them separately and they have all told me the same story - that they could not get a word in because the others were talking all the time. The extraordinary thing is that such talkers do have a strange capacity for hearing the odd remark that they seem not to have noticed and will come back at you fiercely if they think it was disrespectful.

But back to John Taylor. He was not one of those victims, desperate to break in and make their point before disappearing from the platform for ever. He was more like the central - and to some people inexplicable - character in *Brideshead* to whom everyone else relates. Charles Ryder is one of the more brilliant creations in fiction precisely because he says so little but hears and illuminates everything. It must have been even more difficult to act than to write. Jeremy Irons did a superb job in reacting to everything, showing that he was thinking even when he did speak a word and supplying the continuity of the story. Above all, one began to understand why, even though Ryder played a minor role, everyone else either liked or loved him or had to explain themselves to him.

In a totally different environment, I thought John Taylor had some of those qualities. I always felt that I ought to be telling him something, especially if it was mildly outrageous or downright scandalous (only about people from the past of course, never - or almost never - about those still around) and then wondering what indiscretions I had perpetrated. That may of course have been one of his gifts, letting people talk themselves into absurdity and then quietly getting on with the job. It also enabled him - I sometimes thought in moments of disloyalty - to let other vocal people do the dirty work and shake things up so that he could come along quietly sort things out to everyone's relief. It is a habit I must try to cultivate sometime myself. But not - like St Augustine thinking about living a virtuous life - not too soon.

You will realize from these comments that I enjoyed many conversations with this admirable man. He was impeccably courteous and I got accustomed to the kind of exchange when I would mention someone and he would smile and say: "Oh that was a wonderful story. Have you never heard the great scandal about him or her?" and I would instantly sit up waiting for some revelation, only to find that it was the most charitable and understanding remark. Even about Oxford, where he had studied at Lincoln College and never lost his devotion and loyalty. He was *homo naturaliter Oxoniensis*. Like many of its graduates, he could never quite get over the experience of having been there.

Another aspect of his life that meant nothing to me but which meant a great deal to him was his time in the army. He had served in the Royal Artillery, in Tunisia, Italy and New Guinea, and as a commissioned officer served at

Lessons to learn from a listener



Patrick Nuttgens

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Commitment lacking among the new MPs

nuances of speech or the expressions of the participants. It is also that the text these days is so lauded - grammar polished, sentences rewritten, and whole chunks left out, to say nothing of the rewrites performed by members who slip upstairs to check the transcript of their remarks. The pity of it is that no one actually listens to most debates.

It takes something like the hanging debate to remind one that the chamber is still important. It is fashionable to heap praise on the new select committees - especially when they proved more telling critiques of the Government than the opposition. Not that either front bench seems inclined to re-establish them quickly in the new parliament.

To a limited extent the committee system can provide an effective scrutiny of bits of the Executive. But attitudes can still be fashioned in the thrust of general debates in the chamber, to say nothing about individual reputations. This is where they are still made or lost.

John Nutt never recovered from his first disastrous Falklands speech. And Leon Brittan's reputation will now never be quite the same again.

The Home Secretary's stance on terrorism focused attention to a greater degree than in the past on that most questionable part of the case. In the debate on Wednesday the flaws were ruthlessly exposed. Well over 50 Conservatives, including 12 of the new boys, abstained, though my impression is that virtually all of these had in the past backed the restoration case.

The scale of the defeat took us all by surprise. From my own recent experience of constituency selection committees, capital punishment was this time more than over a 100 per cent of the new intake had taken the hanging oath.

Yet members heeded the arguments. Though there may be quite a few reporting back over the next few weeks, reiterating their commitment in principle while emphasizing the many impracticalities that had been brought home to them.

For the first time there was a steady and impressive build-up of pressure from the abolitionists. The establishment began to mobilize: the churches, the judges, prison governors, police chiefs - and a few academics. Suddenly an MP's mailbox had more letters for than against abolition.

What a tragedy that education cannot mobilize such authoritative opinion on a wide enough basis to change the climate of debate. It is not just that quita have fallen again - with the bigger battles to come in the autumn - nor that the world outside the education service will accept them with hardly a murmur. It is that in so many quarters one hears nothing but disparaging comments. Criticisms are rife about every aspect of the service, from the Manpower Services Commission might as well move into Elizabeth House.

Just take the attitude on the Conservative side of the Commons. Three hundred and ninety four people, 100 of them keenly ambitious and eager to make a mark. The hanging vote might indicate that they are not as frightened as was forecast. So what happens in the elections for the backbench committees? There were heated elections for the officeship of the defence, foreign affairs, Treasury and in fact most committees. Not for education however. All points were uncontested and a bit of arm-twisting was necessary to find a secretary. This is not to say that the new officers are not first rate. One just does despair at times.

army staff headquarters in Australia. Like his loyalty to Oxford, he never lost his loyalty to the army. After the war he continued his association as colonel of the Leeds Rifles. That led to a happy occasion when he had to persuade a regiment to vacate a large barracks so that it could be demolished and replaced by the buildings that became the college of technology and are now part of the polytechnic. I suspect that the old barracks were a better piece of architecture than the present polytechnic slabs, but he got his way by dressing up in uniform and calling on the colonel to make his point. What a loyal lot these army people are. I shall never understand them.

What I started out by saying was that the generation of post-war education officers was a golden one. It may be that local authorities had not yet woken up to their powers or it may be that they were all ambitious and full of optimism or even recklessness. Whatever the motivation, they made some very interesting appointments, of a kind that it is difficult to imagine being made today. Cambridgeshire was always odd and fascinating; apart from it, there seems to have been few regions where more adventurous appointments were made than in the north of England, especially the three ridings of Yorkshire, now dispersed and disowned as a result of local government reorganization. I got to know the education officers when I joined the little team that set out for the wilds of York to found a new university. In awe of them for many months, I soon discovered how independent they could be and how firm in friendship. It was always said that the counties had a better record in education than the county boroughs and I think that was right; they had more continuity, and the education officers had more independence and as a result more originality.

Of the county boroughs, Leeds nevertheless always had a good reputation and its chief education officers, notably George Taylor and then John Taylor (at one time it looked as if you had to be a Taylor to get a job) were influential figures. I got to know John well because it was he who established on one central site the colleges that became the polytechnic, set up the polytechnic itself and encouraged me to apply for its directorship. It may be partly because we were such opposites that we worked together so happily. On retirement he became chairman of the polytechnic's governing body, exercising the shrewdness and judgment that I had come to know and respect - a square, dark-suited, bowler-hatted figure with a rose in his buttonhole, a symbol of reliability and the courtesy of local government at its best.

Mr Webb mentions "less learning". Our four terms of 10 weeks every year provide a total of 80 weeks over two years - no loss, and arguably a gain. In my experience, our students use vacations to relax and yet maintain a basic momentum generated in small tutorial groups. The honours degrees awarded show what is possible when academics stop speculating as to what might be, and instead subject themselves to the acid test of success or failure in practice.

Professor Gareth Williams pointed out (*THES*, July 1) the need for a choice of course to suit individual students. Buckingham, in offering that choice, is careful to place heavy emphasis on interviews and an applicant's potential before offering a place, in a procedure totally unconnected with the UCCA system.

Why should Mr Webb try to prove a negative, when proof positive - with honours - is available?

Shorter degree courses

Yours faithfully,
PETER PERRY,
Reader in geography,
University of Canterbury,
Christchurch,
New Zealand.

Sir, - It would be a pity not to point to a flaw in Mr David Webb's letter (*THES*, July 8) on a two-year degree. Surely no objective discussion should ignore cogent empirical evidence from the University of Buckingham, where I teach.

Mr Webb mentions "less learning". Our four terms of 10 weeks every year provide a total of 80 weeks over two years - no loss, and arguably a gain. In my experience, our students use vacations to relax and yet maintain a basic momentum generated in small tutorial groups. The honours degrees awarded show what is possible when academics stop speculating as to what might be, and instead subject themselves to the acid test of success or failure in practice.

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Why should Mr Webb try to prove a negative, when proof positive - with honours - is available?

Yours faithfully,
JONATHAN ROBINSON,
School of Law,
University of Buckingham.

Blacksmiths

Sir, - Your caption to the photographs of blacksmiths at work (*THES*, July 1) gave a most misleading picture of the state of the craft and of the opportunities for education and training in it.

Blacksmithing is not so much a "dying trade" (the Council for Small Industries in Rural Areas knows of more than 1,000 smiths in rural England alone) but a very isolated one. Drawing their inspiration largely from eighteenth century models and out of touch with other blacksmiths, in this country and abroad, with architects, designers, the higher education system in art and design and current developments in the visual arts. To combat this potentially dangerous state of affairs the Crafts Council organized an international experimental workshop four years ago which was followed by a major international conference, "Forging Iron" for 150 smiths at Herefordshire Technical College in 1980. Artist blacksmiths from all over the world came together for the first time and through an intense exchange of ideas and information injected new life into their craft.

Spurred on by the Crafts Council's initiative, British blacksmiths formed BABA, (the British Artist Blacksmiths' Association), whose activities include a bi-monthly magazine and an annual international conference. In 1982 the Victorian & Albert Museum

bravely organized the first international exhibition of contemporary ironwork in Britain "Towards a New Iron Age", which was supported by an international programme of demonstrations and is now touring the United States.

As for education and training, the apprenticeships and short course programme run for many years by CoSIRA have now been supplemented by other opportunities: Camberwell School of Art & Crafts in London and West Surrey College of Art & Design, Farnham, now include forged ironwork within their BA Honours courses in metalworking and Herefordshire College of Art offers blacksmithing in its higher diploma course in small studio practice. Adult education courses are offered at West Dean College, Chichester, and elsewhere. Blacksmiths are even beginning to work in schools, as Craftmen in residence, as is the case at Sevenoaks School, Kent, or for shorter periods through "Craftpeople in Schools" schemes.

In 1983 British blacksmithing is alive and full of potential. Anyone wishing to find out more about the activities and opportunities described above is urged to contact us at the Crafts Council.

Yours faithfully,
CAROLINE PEARCE-HOGGINS,
Education officer,
Crafts Council,
12 Waterloo Place,
London SW1.

LETTERS TO THE EDITOR

Reforming the electoral system

Yours faithfully,
BRIAN HILL,
School of English and American Studies,
University of East Anglia.

Sir, - When I wrote (*THES*, June 24) to draw your attention to the now forgotten system of double voting and two-member constituencies which existed in this country down to the nineteenth century I did so as an additional note to my article (June 10) on the history of third parties. In writing that "I draw no conclusions from the above points, though your readers might like to do so" I hoped that my letter would be taken as it was intended, as making a point of historical interest which might give a historical dimension to the current discussion of proportional representation.

It was thus a little surprised to learn from Brian Meek's letter (*THES*, July 8) that I had "seriously advocated" a multiple vote system of this kind. However, I do feel out of sympathy with his (and the "third parties") system which in practice gives reasonable assurance of some local link with an MP with which one might feel some sympathy (and who might feel some sympathy for you) is the single transferable vote in multi-member constituencies. As Mr Meek does not feel "in the least represented" by his present MP it is difficult to see how the much more tenuous relationship between constituents and parliamentary representatives elected under a transferable vote system can satisfy him in this respect.

Two particular misconceptions appear in his letter. The first is that the traditional form of double voting was "rejected by supporters of electoral

and polytechnics. Therefore, there is not a direct comparison to be made between arts equivalent costs and the figures I have used.

However, the graph at the head of your article would seem to indicate very close agreement between the figures I have quoted and those of the DES. Thus, the arts equivalent figures for unit costs in science for 1982/83 and £5,500 for universities and £3,400 for public sector institutions. The comparable arts figures are £3,450 in the universities and £2,400 in the public sector. This would suggest a difference between the two sectors of the order of £1,500 per student.

These figures, unlike those contained in the DES paper, are not arts equivalent unit costs and do include the costs of research in both universities

non-university sector". The polytechnics' dominant role in advanced work, including research and consultancy within the public sector, is already well established and well known. "Ground rules" - clear policy statements relating to the steps necessary to ensure that the essential strengths of the public sector of higher education are maintained and enabled to respond to the needs for change - are however essential by the effective conduct and appraisal by the board and the committee of the current planning exercise. This would not "get in the way" of the urgent job of detailed rationalization" to which you refer. It would, however, do something worthwhile to contribute to its quality.

Yours faithfully,
WILLIAM BIRCH,
Director, Bristol Polytechnic.

half-century, Virginia Woolf, whom Robert Skidelsky quotes elsewhere in his article, surely put the matter better when she wrote that, unlike fiction, "biography is bound by fact".

This simple statement is deeply misleading and unintentionally derogatory to fiction, from which biography has gained many of its liberties in the last

Yours faithfully,
MICHAEL HOLROYD,
25 St Marks Road,
London W10.

the money to carry out the recommendations would be found.

I look forward to seeing further discussion of the issues raised in the report in your columns: constructive public debate will assist the Government in preparing its response.

Yours sincerely,
SIR HENRY CHILVER,
Chairman of Advisory Council for Applied Research and Development.

The author is education secretary of the National Association of Teachers in Further and Higher Education.

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Reshaping Oxford entry

The formal agenda of the current debate in Oxford University about admissions is the list of comparatively modest proposals made by the Dover committee two months ago. The hidden agenda is about how far Oxford can go to make admissions standards more flexible and liberal without endangering the university's reputation for educating the best and the brightest.

The Dover proposals can be quickly summarized. The seven-term entrance examination should be abolished because it so clearly discriminates in favour of pupils in schools that have a three-year sixth form. In other words independent schools. Instead candidates should be offered places on the basis of a pre-A level entrance examination taken in the fourth term of the school sixth form or of A levels and a more intensive interview as reinforcement. The committee also recommends that candidates should be more evenly distributed among the colleges and that entrance awards should be abolished.

The initial response from the colleges has been favourable. The inevitable opposition seems to have been stronger outside than inside Oxford. This may demonstrate that those inside the university have a better appreciation of the academic vices of the present admissions system and have refused to be intimidated by the suggestion that they are succumbing to egalitarian pressures from the Labour Party and others. This is an academic much more than a political question. Even if Oxford was afraid of Mr. Kinnock before June 9, it can hardly feel threatened by his deputy. There is going to be no Royal Commission or other inquiry into the sources of the university's undergraduates. Of course this lack of strong external pressure for the next five and maybe more years could be dangerous if it led Oxford to run away from the problem of admissions. Not only would nothing be done to control the obvious academic vices that are growing up in the present system, but the external pressure for reform would one day recur with more damaging consequences.

However, the result of the general election may help to depoliticize the issues of undergraduate admissions. The university will now be free to make up its own mind on the real questions without having to defend itself against spurious charges of

appeasement. This debate can now proceed without the distortions that would certainly be introduced by paying too much attention to the views of revanchist alumni in the upper reaches of political life or the media.

During this debate four questions should be asked. The first is whether the traditional admissions arrangements or the reformed arrangements proposed by Dover are better designed to attract as candidates and then to pick out those of the highest intellectual ability. The former seem to have no natural advantage in this respect. No one is not going to apply to Oxford because of the Dover proposals, while admissions tutors will probably have a larger field from which to choose and will no longer be seduced occasionally by the rather artificial achievement of those who have had the advantage of an extended and high-pressure sixth form education.

The second question is whether there is a danger that entry to Oxford might become too selective. This is particularly relevant at present because of the restriction on the total number of places available in higher education which has caused all entry standards to rise. The same phenomenon that may ensure polytechnics a fairer share of better quality students may push the A levels needed by successful Oxford candidates almost off the top of the scale. Yet the inadequacy of A level as a measure of future success is well known and, if nothing is done, admissions tutors may have to play around with tolerances that are so small as to be absurd.

Some critics will argue that the Dover proposals are likely to put more emphasis on A level scores and that the traditional arrangements allow greater discretion to take other factors into account. Yet they are being ding-donged; the seventh-term examination has always been a super-A level; and under the Dover proposals the number of pre-A level entries and provisional offers would rise. The Dover plan would help to reduce the over-intensity of Oxford entrance and so allow greater weight to be given to broader intellectual and cultural qualities in candidates.

The third question is whether Oxford should set an example to other universities. It is widely believed that the English sixth form is over-specialized, to such an extent that it can in many cases handicap future intellectual

achievement. It is as widely believed that higher education would benefit from offering broader degrees, as Robbins recommended 20 years ago, and that the development of some new subjects of crucial importance to the economy is made more difficult because over-specialized candidates often become over-rigid students.

Yet nothing is done about either. Sixth forms, much to the disgust of many school teachers, remain A level factories and higher education continues to be dominated by single-subject honours degrees. Oxford does perhaps have a responsibility not to allow things to get worse. After all because of its history and prestige it has a freedom to make up its own mind and even to set an example that is denied less fortunate universities.

The fourth question is whether the rejection or watering down of the Dover proposals would not be interpreted as an attempt by Oxford to avoid an elementary responsibility to society and so to Oxford's own future reputation. That reputation can only be guarded by a far-sighted, and hard-headed, vigilance about the requirements of progress. Those within the university must try to estimate the needs of Oxford in 2000 and beyond; many of those outside the university who are most passionately involved in the debate will be trying to defend, perfectly understandably and honourably, their personal stakes in the disappeared Oxforwards of the 1960s or even the 1930s.

In the years after 1945 the *Brideshead* Oxford gave way to an Oxford that was at once more intellectual and more mercenary. During the 1980s the shape of Oxford may again need to be reevaluated. In the 1960s Oxford may have been right to redirect itself to the production of a meritocratic elite that reflected in part the rise of the grammar schools and to the reproduction of the academic profession within a rapidly expanding higher education. But does this still make as much sense in low-growth, high-unemployment Britain of the 1980s in which meritocracy has lost its luster and higher education has entered on hard times? So the Dover proposals should be seen in this wider context, as some modest but important steps towards the building of a new Oxford that is in tune with a changing Britain on the brink of a new century. Oxford owes it to 800 years of history to get it right.

Parliament and Government

The House of Commons Select Committee on education, science and arts, which was chaired in the last Parliament by Mr. Christopher Price, made a notable contribution to the discussion and even the making of higher education policy. The committee may not have actually invented the National Advisory Body for the polytechnics and colleges, as Mr. Price almost claimed in his more exuberant moments, but its recommendation that some such body should be established acted as an important catalyst in the chains of events that led eventually to the NAB.

More important perhaps was the way in which the committee's proposal for a committee for colleges and polytechnics demonstrated that it was possible to create stronger national coordinating machinery without compromising the interests of the local authorities in non-university higher education. Although the Department of Education and Science's original intention was to go much further and to remove the polytechnics and colleges entirely from the sphere of local government, the Select Committee's recommendation that the NAB should be a committee of representatives of the local authorities was a great influence over DES policy if only after this fashion.

The committee continued its good work after this main report on higher education. It provided the only forum in which the rather opaque criteria of the University Grants Committee in its distribution of the university grant in July 1981 could be gradually teased out and offered the only occasion in which the chairman of the UGC and of the NAB could (officially) sit down together. Even from beyond the grave of dissolution the committee has continued. This week the evidence it collected on public records is published, revealing a level of concern that makes it essential that the committee's interest should be pursued.

The outlook for its successor in the present Parliament is very different. This time, of course, lost his place in the Commons with a sustained interest in many MPs with a sustained interest in higher education. The Labour opposition is so absorbed in its post-mortem election contest that it has little time to spare for the reformation of Select Committees in a House of Commons dominated by its opponents. According to Dr. Keith Hampson MP (page 22) the *Victims of Conservatism* are showing little interest in education.

This is doubly unfortunate. In general, even constitutional terms, parties must need to assert their more serious views on Government in a large majority, and a crucial factor

in such assertion lies in the Select Committees. Mrs. Thatcher has such a large majority that she need not worry much about back-bench revolts; the official opposition is demoralized; and the SDF Liberal Alliance is a negligible Parliamentary force. So the ability of the legislative to check the executive's power may become an important issue in this Parliament.

In a more specific sense a strong and creative Select Committee will be missed in the making of higher education policy. It was another forum in which dissident views could be aired and orthodox views held to account. It was another piece on a board that is rather badly stocked with effective players. Under Mr. Price it more than fulfilled its early promise; it would be sad if it stumbled now.

Perhaps higher education will miss the Select Committee more than other sectors of education, if there is a quick revival. The schools and new youth training can rely on being the subject of partisan political debate and widespread public concern; so issues there will be debated and developed through the normal process of adversarial politics. Higher education in contrast does not excite the same public response; so issues here must be deliberately stimulated. The Select Committee is a suitable instrument for such stimulation.

Laurie Taylor



"Academics are lazy at detecting cheating" - conference report, *THE SUNDAY*

Shall we start at the beginning, Professor Lapping? What's that, Doctor Wernitz? At the beginning of Prudom's script, Prudom?

To check for plagiarism, Professor Lapping. You remember the board's decision?

Oh yes. Quite right. Do excuse me, Doctor Wernitz. My mind is on other things. You know, that drama split was on the word processor committee, compiling a definition of "financial edge" for the bursar. That sort of thing. Quite so, Professor Lapping. It's only that.

Yes, yes. Do rise away. Right you are, sir. Now I've underlined the second sentence of the third answer because it does seem on the face of it a trifle problematic. Come to the point, Wernitz.

Well, sir. It does read a little strangely. Yes, here we are. "The notion of the subject of the enunciation refers to the existence of exoteric pronouns which founds the nature of discourse as the setting up of specifically located subject positions."

Well, that sounds pretty coherent to me, Doctor Wernitz. After all, we are dealing with a question on the relation between semiology and psychoanalysis. Nothing much wrong with that answer. Very much on the right lines, I would have said.

No, sir. You miss the point. My suspicion is aroused by the contrast between that no doubt excellent point and the sentence which precedes it. Do get a move on, Wernitz.

Well, sir, the preceding sentence reads: "This is a very difficult subject but I think in my opinion anyway that it is very important."

Yes, that is a trifle loosely phrased. But satisfactory, Wernitz. Satisfactory.

And then on the next page, sir, the second paragraph, we have this sentence: "The process of production of representations and subjects for material apparatuses is clearly reinforced by material apparatuses." Now what does this mean, Wernitz? As these things go.

Ah, but Professor Lapping. Listen to this from the standard text on language and materialism: "THE PROCESS OF PRODUCTION OF REPRESENTATIONS AND SUBJECTS FOR THESE REPRESENTATIONS IS REINFORCED BY CERTAIN MATERIAL APPARATUSES." Absolutely identical except for three words.

Well, Wernitz, I concede there's a similarity, but then one is dealing with fairly standard concepts: "processes", "production", "representation", "subjects", and "material apparatuses". You can't suddenly start calling them by other names like "marmalade". No, I think this sounds original enough to be given the benefit of the doubt.

But, Professor Lapping. What possible grounds can you have for such a view? Are you seriously saying that this is original work?

More or less, Wernitz, more or less.

Good heavens. You see one mustn't drive oneself into a corner over these matters, Wernitz.

There are serious implications for academic scholarship in general. Always remember that the original writer is not he who refrains from imitating others, but he who can be imitated by none. Yes indeed.

Are those your own words, Professor Lapping?

More or less, Wernitz. More or less.

The Times Higher Education Supplement

July 29, 1983 No 560 Price 50p

Release intellectual prisoners, Jaruzelski told

More than 300 British university lecturers and research students have signed a petition calling for the release of seven leading Polish Solidarity activists and five members of the union's panel of "intellectual advisors" who have been excluded from the amnesty. The petition was launched at a meeting in the House of Commons on the eve of the lifting of martial law in Poland and will be forwarded to General Jaruzelski next month. Mr. Marek Garzicki of the Solidarity Working Group in London stressed that this date was not coincidental. The lifting of martial law, he said, was a purely cosmetic exercise.

The meeting was addressed by several leading politicians from the Labour, Liberal and Social

Democrat parties and also by Mr. John Fletcher, the playwright and peace activist. The left-wing and pacifist slant was deliberate. As Mr. Eric Heffer observed, the accused were charged with striving to overthrow the socialist system in Poland. Well-known left-wing and pacifist names on the petition could considerably reduce the credibility of the official Polish line that the accused were working for the United States' Central Intelligence Agency.

Mrs. Shirley Williams who as Secretary of State for Education was formerly closely involved in bilateral exchanges with Poland, urged that any upgrading of such activities - including the rescheduling of deba-

must be linked to genuine progress in the restoration of human rights in Poland. Mr. Peter Shore, the Shadow Chancellor, claimed that he would not be deceived if martial law was simply replaced by state police control.

Details of the new Polish special power act so far obtainable indicate that this is just what has happened. The security police have been empowered to enter university premises in the case of "breaches of legality", and the government has wide powers to override decisions of university senates, dismiss university rectors and deans and suspend students and lecturers if their conduct constitutes a "serious threat" to social order or the socialist system.

Improve 'new blood' quality, orders UGC

by Ngaio Crequer and David Jobbins

The University Grants Committee has widened the field for next year's "new blood" programme after the numbers and quality of candidates this year was not as impressive as hoped.

In letters this week to vice chancellors the committee has said there will be 300 "new blood" posts; 70 more than last year but it has emphasized that the long-term pattern of university provision and the health of the individual discipline is more important than the short-term circumstances of the departments.

The assessment of the best location for new appointments will inevitably go beyond the need for new blood as seen by departments and measured by the present age structure, say the letters.

The grants have been increased to £21,000 for natural sciences posts, and to £16,000 in the arts. The 240 natural sciences posts will be allocated so that approximately 24 per cent go to the physical sciences, 18 per cent to engineering and technology, 16 per cent to medicine, 11 per cent to biology, 8 per cent to mathematics and 3 per cent to agriculture.

The 60 arts posts, double this year's allocation, will be divided between social sciences and business, and the arts, languages and education. All the proportions are provisional and may be revised depending on the quality of last and this year's candidates.

In a separate letter the UGC has also told the universities that the provisional grant for 1984/85, excluding "new blood" and information technology will be £1,270m but they will not give a final figure until the Government firms up earlier statements. Nor will it give provisional distribution for 1985/86.

The committee says it is going to keep back £15m for 1984/85 and consider later the best way to spend it. This will be the first year since 1980/81 it will not be necessary to withhold special funds for restructuring or redundancy of the departments.

On student numbers the letter says the UGC will be considering the question beyond 1983/84 but universities should assume their 1984/85 targets are the same as those for 1983/84.

Meanwhile the committee is also concerned about the slow take-up rate for restructuring money. In a third letter, this time to finance officers, the committee has said: "It is clear that costs up to the end of July - which include the costs of retirements taking effect in September 1983 - can be covered without drawing on recurrent grants in this academic year."

So the committee has distributed the balance of uncommitted funds and converted some cash advances to grants.

Universities have been given a deadline of tomorrow to tell UGC their costs for redundancy restructuring and part-time engagement so that they can make a further interim report for Sir Keith late this year.

Grant allocations to individual universities are as predicted, spared in the distribution of the post-election spending cuts in higher education. Also safe are the science budget, "new blood" research jobs, and student awards.

Making his announcement in the Commons, Sir Keith Joseph, Secretary of State for Education, said that continued on page 3

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Dental cut threatens hospital

by Jon Turney
Science Correspondent

Undergraduate dental school admissions will be cut by 10 per cent this year, in a move which may threaten a multi-million pound dental hospital planned at Edinburgh University.

The cut was announced last Friday by the Ministry for Health, Mr. Kenneth Clarke, and is in line with the recommendations of the official study group on future supply of dentists, published on the same day. It is intended to reduce the growth rate of the profession, to avoid a projected surplus of dentists in the next century. Plans for a new dental hospital in Edinburgh were deferred in 1981 when the review of student numbers was announced, and the University Grants Committee and the Scottish Home and Health Department must now decide whether to go ahead.

The UGC, the department and Lothian Health Board hope to arrange a meeting in the next two weeks to consider how to cater for Edinburgh's current intake of 54 students. Likely options are to go ahead with the scheme on a smaller scale or to upgrade the existing premises which the university has long maintained are inadequate. The UGC's dental subcommittee has already made recommendations on the distribution of the cuts, but will have to reconsider these if the Edinburgh school is not improved.

Elsewhere, the immediate effect of the cut should be relatively slight. The University of London has already decided to amalgamate the Royal Dental Hospital and Guy's Hospital Dental Schools which will bring London's student intake down to 250, a reduction of 30. With a national undergraduate intake around 900, this only leaves a further 60 places to find between the 13 schools outside London.

However, the British Dental Association is very concerned about the wider implications of the cuts. The BDA initially opposed any reduction in student numbers, but this year decided to accept a 10 per cent cut, provided the money saved was used to carry through improvements in dental education put forward in 1981 by the DHSS Dental Strategy Review Group. Although talks are in progress between the General Dental Council the UGC, the BDA and the department on some of these proposals, the student numbers review offers no guarantees that the cut will help fund them.

The BDA has already complained repeatedly to the UGC that surveys show clearly that dental schools were not protected from the 1981 university cuts, in spite of the committee's advice. Dental Manpower. Report of the Departmental Study Group. Department of Health and Social Security, £3.10.



Flying the flag: Liverpool University's department of organic chemistry was awarded the Queen's Award for Technological Achievement this week. The flag was presented to Dr David Harrison (left) and Dr Robert Johnstone (right) by the Lord Lieutenant of Merseyside, Wing Commander Keith Stoddart who called for a closer working relationship between universities and industry.

Thatcher man to chair SSRC

Sir Douglas Hague, a professional fellow and chairman of the strategy unit at the Oxford Centre for Management Studies, is to be the next chairman of the Social Science Research Council.

He will be the fifth economist out of six previous chairmen to head the SSRC, which has just decided to change its name to the Economic and Social Research Council. He will succeed Mr. Michael Posner who was given a farewell dinner last week.

Sir Douglas has been an advisor to the Prime Minister's policy unit since 1979, but he is not considered a "punk monetarist". He worked at the Price Commission from 1973/78 becoming deputy chairman, and retains strong links with the Manchester Business School, where he was deputy director. He is known however to be a very acceptable choice in the eyes of Sir Keith Joseph, the Secretary of State for Education. A formal announcement is expected shortly.

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Staff were taken by surprise when the order came to cease recruiting this September for the three courses - BSc and BSc and BSc (Hons) in control and computer engineering and a part-time MSc in digital systems and instrumentation.

According to the polytechnic it accepted the substance of many of the CNA's criticisms, but had been taking steps to deal with the problems. Staff had been expecting a separate visit to look at the department's organization in the autumn and even after the CNA visit some did not realize that organization as well as academic affairs had been evaluated.

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SSRC increases competition awards

by Paul Flather

The Social Research Council meeting in Cambridge last week has approved plans to allocate 350 of the 775 postgraduate awards on offer in 1984 by "open competition" among students, a huge increase on this year's 243 open awards.

Members approved a detailed paper outlining the new divisions in how the awards are to be distributed for the next four years. The paper also discussed the new American-style PhDs on offer, and the number of awards each of the six topic committees will be able to award to universities.

The increase in "open awards" requested by ministers last October meant the SSRC had to knock down the bids put in by each of the committees by an average of one in five, although it was not done pro-rata. The industry and employment and environment and planning committees have come out worst.

The final total 410 so-called "quota awards" for 1984 are divided as follows: economic affairs 54 (bid 70); education and human development 38 (bid 38); education and planning 97 (bid 112); government and law 40 (bid 53); industry and employment 107 (bid

121); research resources and methods 14 (bid 17); social affairs 60 (bid 95); 15 awards are held in reserve.

Members also approved in principle the new style "doctoral programme" awards - involving taught elements covering research methods, plus greater supervision and regular assessment. But they decided to allow more time for committees to fix detailed requirements before launching the awards fully.

The paper highlighted arguments for coming out boldly in favour of the programme right away, while on the other hand pointing out the need to hold back while definite criteria for evaluating bids from university were fixed. The 33 doctoral programme bids put up to council. They would be awarded by committees to institutions able to run proper taught courses.

At present only one doctoral programme, management studies at Aston University, has formal SSRC recognition, winning four awards a year.

The council is to maintain the number of linked awards, given to students who are attached to an existing research project, at about 20 of the total, the same as at present.

Ilisley urges strategic role

A discussion on future research policy was partly provoked by a controversial discussion paper presented by Professor Raymond Ilisley, chairman of the social affairs committee of the SSRC.

Under Professor Ilisley's ideal system, the SSRC would adopt a strictly strategic role, channelling almost all its funds into specialist centres based in university departments best able to exploit and develop research ideas in the chosen field.

The aim would be to create a network of social science research centres, modelled on the current Designated Research Centres preferably involving adjacent universities and polytechnics collaborating to form joint research centres.

He notes some of the dangers of "creating sleeping monopolies" and of leaving little over for new individual research grants, but it would reduce SSRC overheads, and create long-term secure research bases.

This would particularly help university researchers who suffer from short-term contracts and great insecurity. Professor Ilisley headed a long inquiry for the SSRC completed last year into the careers of researchers which highlighted these problems.

The report analysed the need for research continuity. In terms of scientific scholarship, assets, and dissemination of ideas. "Our present system is not well suited to these needs. It encourages brief projects and brief careers," Professor Ilisley said.

His paper was taken with another paper outlining proposals to move away from supporting long term units in favour of designated research centres with eight-year lifespans. The SSRC is negotiating with universities to hand over control of its four research units. The report on research careers is to be re-examined by the council later.

Initial idea, final decision

The Social Science Research Council is to petition the Privy Council to change its name to the Economic and Social Research Council.

The change was endorsed by the required two-thirds majority at last week's council meeting and it is now a formality that the new name will be agreed.

The issue has been discussed at at least three previous council meetings, and at before members about the academic and intellectual implications of any change.

But having already acceded to the view of the SSRC chairman, Mr Michael Posner, that they were duty-bound to drop the word "science" from the title as requested by Sir Keith Joseph, the Secretary of State for Education, they accepted that no better alternative names had emerged despite a trawl of the academic community.

In the end strong opposition to the change was confined to one or two council members. Including Sir Frank Cooper, former permanent secretary at the Ministry of Defence, recently appointed to the SSRC after a long tussle with the Prime Minister's Office, and ironically just created a Privy Councillor himself.

Sir Frank, voicing a view still widely shared among social scientists, felt there was really no need for a change. But many social scientists have also conceded that in the end it is probably a small price to pay to keep the SSRC, and the peace between ministers and the council.

Everyone would have preferred the name to be the Social and Economic Research Council but the SSRC acronym has already been claimed. Social scientists can hardly start protesting now, having remained so quiet since the SSRC was first proposed in May.

Biotech company blossoms at last

by Jon Turney
Science Correspondent

The Agricultural Research Council and the British Technology Group this week launched their long-awaited biotechnology company, which will exploit work in plant genetics.

The Agricultural Genetics Company, closely modelled on the Medical Research Council-linked Celltech, starts out with £700,000 from its three main backers - the BTG, the oil company Ultramar, and the venture capital arm of Advent Technology Ltd. The founders plan to increase the firm's working capital to £15m in the next few years, with help from other private sector investors.

The chairman and chief executive of the new company, Dr Alan Robertson and Dr Roger Gilmour, have also

taken personal stakes in it. Dr Robertson is a former chairman of ICI's plant protection division and Dr Gilmour has returned to the UK from America, where he ran a food technology company.

The company's agreement with the ARC gives it first call on council work in genetically-engineered crops, plant pest control and bacterial inoculants. The Department of Trade and Industry has still not announced a decision from a review of the BTG's general right to exploitation of publicly-funded research - but the new research council-company agreement will stand whatever happens more generally.

This goes against the advice of the House of Commons Select Education Committee on Science and the Arts'

report on biotechnology last year, which recommended that Celltech's exclusive agreement with the MRC be reviewed and that the ARC should not enter such an arrangement.

The company will be based in Cambridge initially, close to the ARC's Plant Breeding Research Institute. Dr Ralph Riley, the council's secretary, said there would be no change in the ARC's scientific programme. If the new company needed research for commercial projects, it would be commissioned in the normal way.

Dr Riley said the ARC was one of the major international sponsors of plant molecular biology and was well up with the leaders in areas like incorporation of bacterial genes into plant cells.



The Duke of Westminster presented a team from Ealing College of Higher Education with a cheque and a trophy after they won the national business quiz sponsored by Lloyd Bank. The team was (left to right) Christopher Stone, Mark Hutchinson and John Anderson.

Local opposition collapses to Ulster merger plan

The charter and statutes for the University of Ulster - the merged University of Ulster and Ulster Polytechnic - are likely to be agreed next month following the collapse of local opposition to the merger.

NUU's council will study the final draft of the two documents shortly, and will give its last suggestions to the steering group overseeing the merger when it meets on August 12. But the steering group is most unlikely to pass them on to the Privy Council until it is sure that NUU's court will repeat its vote of support for the merger when it meets on September 16.

The support in the court meeting last week was overwhelming: 96 per cent of members present and voting supported the special resolution asking the Queen to grant a new charter and repeal NUU's charter.

The resolution only needed 75 per cent support, although it must gain that level again in September or last week's vote is invalid. But the voting by 95 court members for the resolution, four against and 16 abstaining was in complete contrast to the June meeting of court when only a 63 per cent majority - 71 to 41 - was achieved in favour of the resolution.

Staff at NUU and officials at the Northern Ireland Department of Education were pleased and relieved that the court's rearguard action - mainly effected by local business and political representatives - was not repeated, despite protests by Mr William Ross, MP (Londonderry East) in the House of Commons.

According to Mr Ross, the implicit costs of the merger - transferring staff between pension schemes, travelling between sites, maintaining support to Queen's University - are much higher than Government estimates.

"From where will the money be found?" he asked. "Will there be a massive cutback in student numbers? Will there be a further rationalization and closures? Where will the cash come from? Those are not light questions, but questions which the university (NUU) asked from the first hour that the merger was proposed. They have not been answered."

The place to debate the closure of NUU was the House of Commons, not Northern Ireland, he said, under a Bill that could be discussed by MPs.

"The people of Ulster and those interested in higher education in the United Kingdom generally should be very interested in the small, weak institution that is being butchered in Coleraine."

Local authorities have already been told of the Government's intentions to allow for this decision from September, and the new authority will permit them to decide whether particular

Government gets £12m training bill

by Patricia Santinelli

The Government has been asked by its advisory body on teacher training to provide up to £12m a year by 1985/86 to train all new further education teachers.

The recommendation was agreed last week by the Advisory Committee for the Supply and Education of Teachers after the Department of Education and Science gave local authority representatives an assurance that this would be new money and not deducted from the advanced further education pool.

The local authorities have said that unless funding was really new, they would not be prepared to redirect funds currently being spent on the release of further education teachers for initial training into the Youth Training Scheme and education management. This was part of proposals put forward by ACSET further education sub-committee.

ACSET's argument is that unless specific funding is provided, the current position where only 3 per cent of new entrants to further education teaching are released for initial training will continue or deteriorate further.

This view is supported by results of a recent HMI survey which showed that some authorities and institutions give no priority to the untrained new entrants. On the contrary they use release almost as a reward to those with five, six or even 10 years experience of teaching.

ACSET wants the Government to provide the funds to enable all untrained entrants, estimated to be about 2,000 a year, who have less than three years teaching experience to take a two year certificate in education (CE) course. In a full year this would cost £6m.

The committee has, however, fought shy of recommending the introduction of formal training for all further education teachers. It says that recommendations on this subject will be submitted later.

The Association of University Teachers has lodged a strong objection to the proposed composition of the new national advisory council for the accreditation of teacher training courses.

This will be the third time that Professor Bill Wallace, the AUT representative on the committee has objected to ACSET's recommendations to the Secretary of State for Education.

The new council was agreed by the committee last week. Professor Wallace however, in a dissenting note, says he is not satisfied that the committee's composition will be representative.

Effective project

The Manpower Services Commission is giving financial backing to a project to help women managers become more effective.

The project was set up by Sheffield Polytechnic's department of management studies plans to help establish small self-development groups for women in management.

These groups will be led by women managers and it is hoped to set them up in the fields of manufacturing, banking, education, local government and community work.

Battle over merger plan

The London School of Hygiene and Tropical Medicine is fighting a university decision to move its department of nutrition to Queen Elizabeth College.

The School of Hygiene and its allies have protested strongly about the recommendation from London University's joint planning committee that the department should be amalgamated with the department of food science of King's, Queen Elizabeth and Chelsea colleges and based at Queen Elizabeth College.

Although the recommendation has been approved by the university's senate and court, the fight could be successful. Professor Charles Garland-Smith, dean of the School of Hygiene, said this week that he understood the joint planning committee would reconsider the issue in the autumn.

The committee's original proposal followed a subject working party in the university, which said that amalgamation of the two departments was one possible option. The committee took up this option against the advice of the School of Hygiene, and it was passed by the university senate as part of London's overall restructuring package.

The school tried to persuade the university court to refer the recommendation for further discussion, but court also approved the recommendation. School sources say that the university was reluctant to re-open the question because it wished to present a completed package to the University Grants Committee this year.

However, officials have now indicated informally that the issue will be looked at again, although the school has not yet had notice of this in writing. Outside pressure helped to keep the department's hopes alive - a number of eminent medical authorities are understood to have written to London's vice chancellor, Professor Randolph Quirk, protesting at the original decision.

Staff at the school were also strongly opposed to the move. One senior staff member said: "We object not only to the decision which was made but to the way it was made." Members of the nutrition department argue that the university's proposal takes no account of London's importance as the main national centre of nutrition teaching.

Croydon peace negotiated

Dismissal notices to 300 lecturers at Croydon College have been withdrawn after negotiation of a compromise formula on extra teaching hours.

All staff are to be timetabled for an extra hour of class contact each September. Negotiations are to continue on the question of the teaching load of staff recruited at the start of the new academic year and other conditions of service issues.

Staff had previously rejected a compromise which would have meant an extra hour for existing staff and an extra two for new recruits.

Union negotiators are likely to resist the introduction of a differential for new and existing staff, but both sides have declared their intention of reaching agreement by October 31.

Improve 'new blood' quality, orders UGC

continued from front page

£23.5m of the reduction in the 1983/84 cash limit would be achieved by reducing the amounts set aside for restructuring, redundancies and rates, which had proved to be set at a higher level than necessary.

But many institutions had already laid plans for diverting resources to other projects and Sir Keith has now forced them to postpone or abandon these.

With a reduction of £1.1m in the Open University budget, but setting aside £1.5m from the contingency fund for the cost of bridging the gap for the clinical academics' salary award, the net reduction is £23.1m.

The voluntary colleges and other direct grant institutions including the Cranfield Institute of Technology, the

HMI slams poly engineers

by Karen Gold

Broad hints that the engineering department at Bristol Polytechnic has little justification for remaining open have come in a highly critical report by Her Majesty's Inspectorate.

"There is little evidence of local or regional demand for mainstream engineering degree courses at the polytechnic, and it must be assumed that the two existing prestigious university engineering departments now in Avon adequately cater for these requirements," the report concludes.

In general, neither the style of teaching nor the nature of the accommodation and equipment is appropriate to undergraduate work. The department attracts sufficient students, while higher technician work currently done by the polytechnic could be done in other Avon colleges.

The strongest condemnation is reserved for the department's site, shared with Brunel technical college. "The environment is so poor that it is doubtful whether any up-to-date professional engineering can possibly take place on the site."

On one course, the technology with industrial studies degree, student performance gave cause for "extreme alarm". Most students on that course had low A level entry grades, and from the 1978 intake of 15 students only one passed first year exams at the first attempt.

More widespread concern is expressed about the department's "static and ageing" teaching force. "The corporate industrial experience within the department may be a decade or more out of date - apart from the work of the individuals who are actively engaged in research, many staff are not, in general, pursuing the development and understanding of their own subjects to a level to be expected in a department offering degree courses."

The report says: "Generally there was little effort or will to establish and maintain industrial contacts at a level and of a type that would contribute to the updating of the staff, help generate research, enhance professional credibility and stimulate teaching."

Any attempt to introduce a personal tutoring system for students within the present facilities, with tutorial and

private study rooms "almost non-existent", would not be feasible. Currently academic tutorial arrangements for degree and HND sandwich students are already erratic, it says, while no formal arrangements for personal tutoring exist.

Students' project work and its supervision and assessment is praised. But laboratory work is again alleged to be affected by accommodation difficulties, with the distance between labs and classrooms acting as a disincentive for work in each of them to be linked.

Certain laboratories are described as well-equipped, although others are inadequately equipped or overcrowded, while the design studio is "grossly overcrowded and cluttered", needing at least twice the present space. The team of laboratory technicians is congratulated in the report for the upkeep of the labs and equipment.

The department's organization lacked cohesion and direction, and individual schools seemed to operate as separate units, the report says. It was also unusual in having part-time degrees in electrical and mechanical engineering without full-time degrees in those subjects.

The Open University's pioneering U-courses are still under threat of closure in spite of a senate decision to refer a whole package of cost-saving proposals back to the academic board.

The plan to phase out the inter-faculty U-area, which has overseen the running of the five courses for the past three years, and to shelve two new courses on Perspectives in Health and Disease and Conflict and Security in the Nuclear Age, had been agreed by the academic board.

But when the package was put to the senate as a proposal for saving a further £2,500,000 next year, the senate referred everything back to the academic board for the proposals to be more fully costed and for better justification.

A small group of academics in different faculties who compose part of the U-area sub-committee have been facing the threat to the courses ever since it became known that the university's officers favoured the phasing out of this innovative cross-disciplinary area of study.

They believe that although the senate threw out the proposals this time it is quite likely that the academic board could put the same proposals forward to the November senate meeting with more detailed financial justification to support them.

One member of the group said they were heartened by the opinion expressed in the senate meeting last month that the U-area brought breadth to the university syllabus and reflected the spirit behind the OU. But university officers argued that the university should concentrate on single discipline courses for students who wanted specialist degrees.

There is also the fear that a decision to postpone the next senate meeting for two months could lead to back door actions since the finance committee and council have executive powers to take emergency measures meantime. The announcement of the extra £1.1 million cut by the government in the OU budget next year could have some repercussions in this respect.

The OU's interpretation differs from the Government's official statement that the savings would be made by the "deferral of some expenditure on capital works and small reductions in recurrent expenditure".

The third main area for the savings are in the DES' own central services, although no redundancies are threatened. Real savings of £600,000 are to be made with a further £236,000 received from increased repayments for services provided by the DES to other bodies.

Educational research suffers a cut-back from £3.2m to £2.9m but the overall policy of supporting research and the department's planned programme remain unchanged.

The Science and Engineering Research Council has given in to pressure



Catherine Jones and David Kinsey, two out of 22 teacher trainees from Trent Polytechnic who recently took part in a novel work insight experiment, demonstrate that it is not "too hot in the kitchen" for them on the room service counter in Nottingham's Albany Hotel. The scheme is designed to help participants understand how daily decisions are taken in industry and commerce.

Warwick to fight for TUC seat

Less than a year after becoming general secretary of the Association of University Teachers, Ms Diana Warwick is to fight for a seat on the TUC general council. The AUT is taking advantage of the new constitution of the general council which for the first time will have 11 seats reserved for unions with less than 100,000 members.

It is the first time the AUT, which affiliated in 1976, has fought for a seat on the general council. One of the 30 other contenders for the reserved seats is Mr Alan Sapper, left wing general secretary of the Association of Cinematograph, Television and Allied Technicians, and brother of Ms Warwick's predecessor at the AUT.

She is the only woman among the nominees for the reserved seats, although the National Union of Public Employees has nominated a woman for one of its automatic seats, and would not have tried for one of the five seats reserved for women.

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Educational research suffers a cut-back from £3.2m to £2.9m but the overall policy of supporting research and the department's planned programme remain unchanged.

The Science and Engineering Research Council has given in to pressure

from the unions and vice chancellors and agreed to pay full 1983 academics' pay award to its research staff.

But in a letter to union leaders, its chairman, Professor John Kingman, warns that the result will be a reduction in the level of scientific activity it can support.

The Association of University Teachers is delighted that the council has been forced to stand by its commitment to pay national salary scales, but SERO now has to find an extra £2m representing the gap between the 3.5 per cent cash limit and the level of the award.

It was feared that other research councils might follow SERC's lead if it was successful in conceding the national agreement.

Research crisis solution

by Jon Turney
Science Correspondent

The best answer to the crisis in the dual support system for university research is to earmark University Grants Committee funds for research. A working party of the Advisory Board for the Research Councils has decided this is better than asking the research councils to increase their contribution.

The working party, which reported this week, was set up to meet a commendation of last year's Merriam report on support of university scientific research. It is strongly in favour of earmarking even though Merriam rejected this option.

The working party was so concerned about the dual support system, where the UGC grant theoretically provides enough research cash to sustain a modest research programme in each university, that they considered asking for all research money to be taken away from the UGC and distributed between the research councils.

Mr Dick Morris of the engineers Brown and Root, chairman of the working party, admitted that some would see their comments on the UGC as outside their terms of reference. But he felt dual support was a good system which needed rescuing urgently. "There may be a bloody great row, but I think something should happen", he said.

On the specific question of the balance between research council spending on separate institutes and on backing university researchers, the working party concludes that there could be no set formula, as each council is different. But they had very little criticism to make of the existing pattern of spending. The report estimates that over 30 per cent of total expenditure by the five research councils goes on university support.

It records the view of university researchers that research council institutes have been protected from spending cuts, and calls for measures to reduce mutual suspicion and misunderstanding between the two arms of the academic research community. Specific recommendations to promote collaboration between universities and outside institutes include more short term research council appointments to promote staff mobility, and encouraging institute staff to lecture and supervise students in universities. A "research community" in a particular field should be the goal, the report says, and it singles out the Science and Engineering Research Council's Daresbury laboratory as a success from this standpoint.

The report also calls for each council to review its existing institutions, looking at their location and their interaction with the scientific community outside. And it says that any new institute or unit should only be established on a university campus.

The report makes no comment on the individual spending patterns of the five research councils, beyond emphasising that they all have different needs. This is seen as good news for those councils which spend most of their budgets on their own institutes, and so bear the brunt of university researchers' criticism. Dr Ralph Riley, secretary of the Agricultural Research Council, said: "This report can be construed as judging that ARC's practice of putting a large proportion of its money into its own institutes is appropriate."

The truth of this will be seen later when the Advisory Board for the Research Councils will decide whether to confirm a cut in the ARC's budget proposed last year.

The support given by Research Councils for in-house and university research, Report of a working party of the Advisory Board for the Research Councils. Available free from the Department of Education and Science.

Leader, back page.

HMI promotion
Mr Eric Bolton, a long serving member of HMI Inspectorate, has been appointed senior chief inspector. In succession to Miss Sheila Brown who she retires in September.

Training worries lecturers

by Paul Flather

Social work lecturers are alarmed by what they see as a drift by the Government towards an "apprentice" type of training approved social workers.

Lecturers in universities and polytechnics in the Midlands have already voiced their concern following recent discussion of a letter sent by Mr Tony Newton, under secretary at the Department of Health and Social Services, to Mr James Pawsey, MP for Rugby and Kenilworth.

In his letter sent before the election Mr Newton states that while some staff need to hold the Certificate of Qualification in Social Work, "the majority need other forms of training, more job-related and less academically based."

The CQSW teachers fear that this spells out Government intentions to stress vocational elements in social work training, threatening the independence and academic input of courses taught in universities and colleges.

Mr Newton explains in his letter why the Government opposed a House of Lords amendment to the Health and Social Services and Social Security Adjudications Bill calling for mandatory awards for all social work students.

He states that 70 per cent of front line social workers already hold the CQSW, and that the proportion will continue to increase. But the need is to provide more residential and day care service training and this type of training would not be suited to a system of mandatory awards, Mr Newton wrote.

Mr Bernard Davies, a lecturer in applied social studies at Warwick University, who convenes the Midlands group of CQSW teachers, said the letter could be taken as another sign of the vocational emphasis favoured by the Government.

"We are concerned that ministers want narrowly based and conceived social work courses almost on the old apprentice model, this is already happening in the teacher training and youth training fields," he said.

The matter is to be discussed further at the next national meeting of CQSW teachers and it is likely they will seek a deputation to express their concern.

County drops fee plan

Cheshire county councillors have shelved plans to charge 18-year-old students fees for further education courses. The county council last week deferred a proposal that the age of remission for fees should be reduced from 19 to 18 in the face of determined opposition. The National Association of Teachers in Further and Higher Education has warned that students might be forced to give up their studies.

The union calculated that fees could be as much as £294 a year with additional heavy examination fees. At the moment students under 19 at the beginning of their courses are excused fees and the NAFHE estimated that more than 1,000 would be affected. The proposal is not dead - officials are expected to examine the arguments for and against over the next year. A prime reason for the decision was that the authority does not operate educational maintenance allowances - and it is likely that strong pressure from the Liberal group on the council will put this on the agenda when it reconsiders the policy on reducing the age at which fees are charged.

Mr Judith Summers, secretary of North's Liaison Committee in the county, pledged continuing opposition to the policy. Educational maintenance allowances would only offer a partial solution because it would introduce a means test, she said.

"The service in Cheshire must be funded sufficiently to allow all who can benefit from further education to do so - and this is what the council has to face up to," she added.

The decision not to implement the policy this year adds to the county's already serious financial plight. Its further education service is expected to overspend significantly and it has now simultaneously lost a possible source of income and lost its doors open.

Strathclyde to fight college takeover

by Olga Wojtas

Scottish Correspondent

Strathclyde Regional Council has warned that one of its colleges could face closure if it is transferred to direct Government control. The council is set to fight the Secretary of State for Scotland's plans to take over Bell College of Technology in Hamilton.

The government also intends to take control of Glasgow College of Technology and Napier College in Edinburgh. But Strathclyde and Lothian regional councils seem unlikely to put up serious resistance since these colleges concentrate on advanced and degree level work similar to the central institutions run by the Scottish Education Department.

Mr George Bain, Strathclyde's deputy director of education for further

education, said Bell College was not a true central institution. Although 90 per cent of its courses were at higher diploma level, it did no degree work. "I feel therefore it would be a mistake to transfer Bell and we might well be making representations to that effect," he said.

Dr Malcolm Green, chairman of Strathclyde's education committee, said it was vital to have a college in the Hamilton area, particularly since the closure last year of Hamilton College of Education. Strathclyde's policy was to make colleges local and if Bell College were transferred there would be no local provision in Hamilton and East Kilbride.

If Bell College comes under central control, the Scottish Secretary will determine student intake. Dr Green

predicted that the transfer would be a prelude to closure. The college was likely to be linked with the nearby central institution, Paisley College of Technology, run down and then closed as had happened with the former Craiglockhart College of Education.

Mr Ronald Young, secretary of Strathclyde's ruling Labour group, said that staff were likely to oppose the move. While in the past they might have been glad to be rid of local authority control, the world had changed and Bell had been enjoying special support from the region while courses were under threat at Paisley. "Staff must be running scared," he said.

Mr James Gilchrist, chairman of Lothian region's education committee, welcomed the transfer of Napier Col-

lege, saying it was more appropriate a central institution. Undoubtedly, Lothian's view has been coloured by the Government plans to transfer the present central institution, Leith Nautical College, to the region's control.

Mr Gilchrist said he hoped to see Leith College move away from its nautical base and become more of a further education college.

But other central institutions have criticized Leith's transfer. They say it runs national courses and should be run centrally. Dr Alan Watson, Leith's principal, said despite a downturn in the nautical market, Leith had increased its turnover by 10 per cent. He urged the Scottish Education Department to adopt the American maxim: "If it ain't broken, don't fix it."



Lord Hailsham receives the charter from Sir Neville Leigh

The seal of approval

Sir Keith Joseph, the Secretary of State for Education, has firmly restated his belief that a vigorous and high quality independent sector is crucial for the development of education in Britain.

Sir Keith's views came in a message of support sent to the University of Buckingham last weekend and read out at a ceremony to mark the installation of Lord Hailsham as the university's first chancellor.

There were also messages from the Queen, and the Prime Minister as the Royal Charter awarded to the university - the first to an independently financed university this century - was formally handed over to Lord Hailsham by Sir Neville Leigh, clerk to the Privy Council.

Sir Keith's message said: "It has given me great pleasure to see the way that the independent university project has developed over the past decade, at a time when it cannot have been easy to launch an initiative of this kind."

"I believe that it is crucial for the development of education in this country that there should be a vigorous and high quality independent sector cater-

ing for all ages of pupils and students. The establishment of an independent university is thus an important and exciting enterprise."

Sir Keith noted the creation of a two-year honours degree-level course as an initiative of "great interest", and he described the granting of the Royal Charter as the "key to future development" rather than the culmination of 10 years' effort.

The university presented its first batch of honorary degrees to those who have helped establish it or inspired its scholars: Sir Ralph Bateman, an industrialist and first chairman of the management committee; Lord Belfof, the first principal; Mr Jo Grimmond, the patron; and to the two academic advisers, Sir John Kendrick, and Professor Francesco Forte, the Italian minister of Research.

Visitors had earlier watched the opening of the university's first purpose-built students' residential block, funded by a £400,000 gift from the Bernard Sunley charitable foundation. A second block of student residences is being built.



Dr Kathleen Anderson has been appointed deputy principal of Napier College, Edinburgh, the first woman to hold the post in Scotland's largest local authority college.

Dr Anderson is head of Napier's Biological Sciences Department, has personally attracted more than £200,000 in research grants to the college and initiated a new honours and degree course. She will be in charge of

YTS trainees 'would not drop out'

Most young people would still participate in the Youth Training Scheme even if the allowances were not raised, according to a Manpower Services Commission report.

The unpublished report contains a summary of lessons and issues identified in a survey of seven pilot YTS schemes run by companies ranging from ICI (Wilton) to Dewhurst (the butchers).

"Most trainees favour an increase in the allowance by about £4-£5 a week, but despite this few said they would drop out if it was not raised," the report says.

Last month the commission recommended an increase of £1.45 in the £25 YTS allowance but this was rejected almost immediately by Mr Norman Tebbit, Secretary of State for Employment.

According to the survey the further education service must become more flexible in its timetabling and provision of off-the-job training. "Several management agents have complained that local colleges have not been able to alter their normal academic year to incorporate trainees who might start later than the normal commencement date," it says.

found useful by the majority of managing agents, mainly because it saved time and direct recruitment was found to be time consuming. But even here the report says that there should be greater flexibility in the recruitment criteria used.

For example, despite the efforts of the careers service as well as managing agents, it has proved difficult to recruit girls to places which offered training in non-traditional areas, although a few did enter schemes with a foundry or agricultural bias.

But on the whole, trainees did see the YTS as valuable in equipping them for future jobs, by boosting their confidence and providing them with life and social skills, as well as a platform for future training.

The survey did identify some anomalies in selection procedures. There was a tendency for craft or technician based industries to look for higher qualifications when recruiting. There had also been some streamlining of trainees immediately after selection which had enabled some young people to follow more demanding courses at local colleges.

Concern has also been expressed about the amount of credit that may be

awarded for YTS training, and the

apprenticeship for trainees successfully completing the YTS course. Newcastle's College of Arts and Technology can now remain open all year round to operate the YTS following an agreement between the National Association of Teachers in Further and Higher Education and the local education authority on how much time should be allocated to profiling and counselling on the scheme.

Ulster working party meets

The University Grants Committee working party on Northern Ireland has met for the first time. Members are: Professor Keith Clayton, University of East Anglia; Sir David Bates, Simonian Institute; Professor P. M. Brimble, Manchester University; Dr Sidney Cotton, Leicester Polytechnic; Dr J. Doherty, Northern Ireland Western Education and Library Board; Miss Anne Duffon, Oxford Library Board; Miss Anne Duffon, Oxford Polytechnic; Mr R. J. Mansel, Northern Ireland Southern Health and Social Services Board; Mr John Sellers, ex-

Stop talking, start linking, says GEC director

by Jon Turney

Science correspondent

Less talk more action should be the aim of those who wish to speed up university-industry collaboration, Sir Robert Clayton, technical director of GEC, told a conference on the subject last week. Speaking at the Cranfield/UMIST-backed conference on "Communication and collaboration between the Universities and Industry", he said "there have been too many reports, committees, inquiries, and even conferences on this subject." However, he conceded that the lack of action meant it was necessary to repeat the obvious to hammer the message home.

Action was necessary on both sides, he felt. It was up to industry to go into universities and find out what was of use, for if university researchers knew they would already have started companies themselves. At the same time, government must support universities properly, funding both people and equipment, or they would cease to be of interest to industry.

The conference at Imperial College, the second on the same theme in three weeks, also heard from Sir Alan Muir-Wood, the chairman of the recent Advisory Council for Applied Research and Development working party on industry-university links. He

found it "remarkable" that the three Government departments who needed to consider the problem in the long term - Defence, Education and Science and the Treasury - were not represented at the meeting. He hoped that the ACARD group's document was not "simply another report" and would finally make something happen.

Both Sir Alan and Tony Eggington of the Science and Engineering Research Council defended the council against criticism from the floor that it had failed to divert grant money to engineering research on any significant scale. Mr Eggington said that a suggestion from Professor Patrick McKenna of Cranfield that engineering got a very bad deal from SERC was astounding. "Saying this is a gross disservice to SERC, ABRC and the DES, including the Secretary of State," he said, pointing out that SERC's funding for engineering had risen from 10 per cent to 30 per cent of its budget in the last ten years.

Dr Stephen Bragg, the SERC's regional industrial broker in Cambridge, said that while everyone agreed more money should go into such work, the council was in a good position to try out new ideas because they were run more or less on behalf of the Department of Trade and Industry, he said.

Ready-made go-betweens

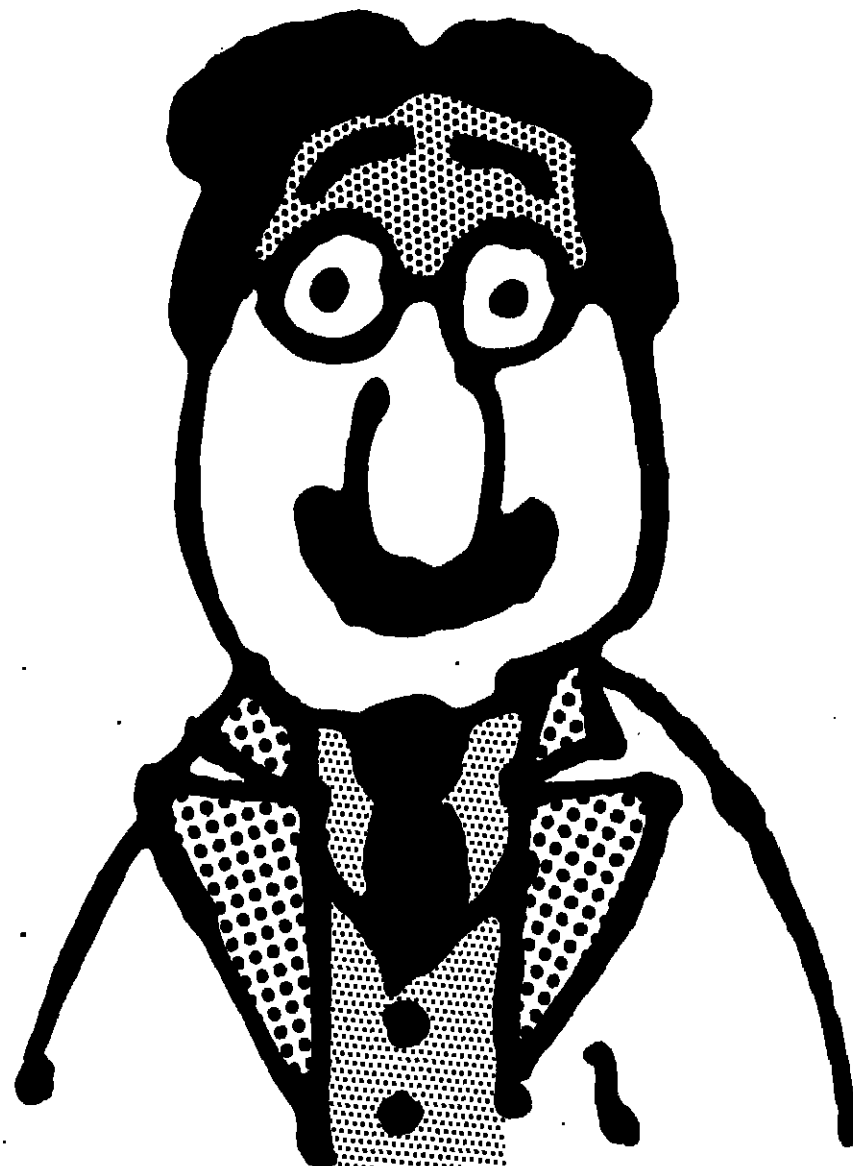
The industrial research associations could do more as go-betweens for academics and industry if universities went to them for help, Dr Leslie Blake, director of the Construction Industry Research and Information Association, told the conference.

"I see the 40 or so research associations in the UK as important two-way links between universities and industry," he said. The associations had been set up and run by the different sectors of industry to meet their own needs, and so would be an excellent first contact for academics anxious to

place new ideas or inventions. CIRIA, for example, had around 600 members in the building, civil engineering and offshore and underwater engineering industries, along with 50 university and polytechnic members.

Dr Blake said a recent meeting of the Committee of Directors of Research Associations discussed the ACARD working group's report and decided to try and increase their help to universities. "It is now up to you to test the offer by approaching the research association in your own particular sector of industry," he said.

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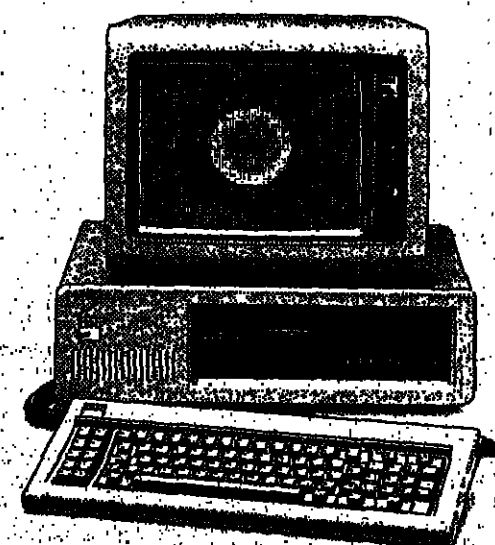
When it is Muggins's turn to attempt the near-impossible manoeuvring that attends the organising of conferences, curricula, or any kind of service schedule, there is a tendency for glumness, if not despair, to invade the soul. Happily, this need now be no more.

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Prison handbook rewritten

by Karen Gold

The Home Office is to rewrite parts of its handbook for prison education officers in an attempt to avoid future disputes over educational authority such as the recent ones in Holloway and Kingston prisons.

Officials have already begun redrafting key sections of the education officers' "Bible". Meetings will take place between them, education authorities which employ prison education staff, prison governors and the staff union, the National Association of Teachers in Further and Higher Education in the hope that changes can be introduced by the end of the year.

Two main changes are envisaged. One is a clear statement that education officers are responsible to the education authorities in education matters, though under the prison governor's authority in day to day matters.

The second is an effective dispute procedure: while an education officer will have to obey immediate instruc-

tions from a governor, if the two disagree then the latter can take the complaint to the Home Office, and the former to the local authority.

The intention is to avoid head-on clashes between education officer and governor of the kind which has just been resolved at Holloway Prison in London, with the agreement that Holloway's chief education officer, Mr Richard Brown, should be allowed to return on August 1 to the prison from which he had been banned.

Mr Brown, who was not even permitted by the governor Miss Joy Kinley to telephone education staff in the prison, was disciplined for keeping in contact with a former prisoner in order to help her with a university application. Mr Brown has now agreed to have no future contact with the prisoner.

But the principle of contact with former prisoners, which education staff and others see as important for rehabilitation, has not been solved.

A temporary "operational brief" for

education staff and the governor at Holloway was drawn up by a meeting of the Home Office, the Inner London Education Authority, Mr Brown and Nathe. A fuller "professional brief" is currently being drawn up by ILEA, to be completed by September. Both will stress the shared responsibilities for prison education between the education officers and the general regime.

But with assistant prison education officer Ma Anita Bromley still in difficulties at Kingston prison, though no longer excluded from the prison, and no solution to the problem at Holloway in principle, Nathe fears that similar difficulties will arise again.

"We have had a situation in which work that is the responsibility of the local education authority has been destroyed, albeit for a period of time, by the whim of two governors," a Nathe spokesman said. "It's a great shame that in both cases there seems to be no policy underlying these decisions, just conflict of personality."

A temporary "operational brief" for

YTS study launched

Local authorities' contributions and problems in running the Youth Training Scheme are to be examined under a new project launched by the Further Education Staff College.

The project which is funded by the Manpower Services Commission to the tune of just under £50,000 aims to study and report on how five local authorities planned the first stages of YTS and its first year of implementation.

The five local authorities involved have not yet been named but they are expected to represent at least two metropolitan areas, the Shires and two London boroughs.

Essentially the project is intended to be collaborative whereby the FESC team will both study the YTS activities of the five authorities and support them by circulating information and analyses of their own and other YTS developments.

The project which runs until September 1984 will look at mechanisms for planning and programme development, the role of different local agencies, styles of control and administration, as well as reaction to MSC systems of funding, monitoring and administration.

It is hoped that in this way a fairly usable account of the way in which difficulties in running YTS can be produced which will be helpful to other local education authorities and give the MSC the information they require on how authorities cope with their financial system and monitoring.

ABRC posts

Three new members have been appointed to the Advisory Board for the Research Councils. They are Professor Peter Mathias, professor of economic history at Oxford University, Dr Derek Roberts, director of research at GEC, and Mr Martin Wood, deputy chairman of the Oxford Instruments Group.

The new appointments complete the selection of five new members intended to strengthen the ABRC's independent expertise and its links with industry.

Importance of a child's view of computers

The way children use metaphors, models, and perceptual frames to interpret and understand knowledge could be radically altered by the use of computers and new technology, according to a new report.

The authors say that despite considerable investment in microcomputers very little attention has been given to the inevitable effects on children's learning and thinking and to their use in education.

They recommend the urgent creation of a specialized technology centre in Britain, possibly housed in a university or polytechnic, initially embarking on two main programmes: into the effects of information technology on the curriculum, and on the learning process.

The report was commissioned by the Social Science Research Council from Mr. Morley Sage, an electrical engineer, director of the computing cen-

vice at Southampton University, and Mr David Smith, a research fellow.

Mr Sage said: "Major cultural changes are being caused by the development of microcomputers. It is fundamental for the future health and wealth of the country that there is research investment to study the effects on education."

Professor Hugh Berkhardt, director of the Shell Centre for Mathematical Education at Nottingham University, suggested microcomputers were equivalent in impact to the discovery of paper.

The authors would not be drawn on the level of funds needed to launch the specialist technology centres, or the costs of applying the work. They wanted the report to act as a catalyst for discussion of the issues, and will seek support from industry.

Examples of the benefits of such

research cited include matching instructional programmes to the needs of teachers, and designing appropriate software for educational use. At the University of Alberta in Edmonton, Canada, for example, the authors found that medical students using computers as a learning aid experienced much less stress.

The SSRC is inviting comments on the report, and plans to stage a workshop to discuss the ideas in detail sometime in the autumn. The Government is already backing a £2m Microcomputers Education Programme, recently extended with an additional £3m support.

Microcomputers in Education - a research report for Research by Morley Sage and David Smith, price £2, from School Governors Publishing Co, Darcy House, Blechningley Road, Mertham, Redhill, Surrey.



A print by Edinburgh artist, Elizabeth Blackadder (right) is presented to the University of Edinburgh College of Art to mark the 400th anniversary of the university. The picture was handed over to Dr John Burnett, principal of the university (left) by Mr Ian Robertson, chairman of the college of art's board of governors.

NUS demands Iraqi inquiry

by David Jobbins

A demand for an official inquiry into allegations that the Iraqi embassy is approaching university registrars for lists of Iraqi students has been lodged with the Foreign Office by the National Union of Students.

In a letter to Sir Geoffrey Howe, the foreign secretary, NUS president Mr Neil Stewart claims that a circular students' full names and their courses falls outside the boundaries of "normal diplomatic practice".

NUS anxiety about the activities of people alleged to be connected to the embassy has been mounting over recent months.

An assistant cultural counsellor at the embassy, Dr H. Al-Madhi, has been touring the country and anti-Government students allege he has been collecting information on the anti-Ba'athist Iraqi Students Society.

His brothers were detained after an attack on Iraqi dissidents in London earlier this month. One, a student in the United States, admitted assault and was fined £23 and put on probation for

a year. But another brother, a diplomat at the embassy, was released.

This week, five Iraqi students appeared in court at Cardiff charged with causing an affray after an incident at the weekend. The students, three from Manchester, one from Leicester, and one from the London area, were bailed to appear in court on October 3.

The Foreign Office has yet to reply to the NUS request, made after no response was received from the Iraqis to two letters.

The letter to registrars was signed by Mr Ali Hussain Humadi, the cultural counsellor. The UK Council on Overseas Student Affairs pointed out to the embassy that in the past institutions had been unwilling to comply with similar requests.

Mr Stewart said: "We are seeking a positive response from the Foreign Office as any students coming under such surveillance may genuinely fear the consequences of any sign of opposition to the Iraqi Government both for themselves and their families in Iraq itself."

"The NUS said it was sure no registra-

Overseas news Budget cuts report prompts criticism

from Benny Morris

JERUSALEM

The committee of the heads of universities in Israel has warned that this year's 5-7 per cent cuts in university budgets will cause lasting damage to higher education, research and, ultimately, to Israeli society.

The cuts for fiscal year 1983/84 are among the across the board reductions imposed on all government spending following the unexpected, increased defence outlays for the war in Lebanon. Government critics maintain that the cuts are also the result of the finance ministry's very poor handling of the Israeli economy, which has an annual inflation rate of 140 per cent and a \$12bn foreign debt.

The committee, composed of the presidents and rectors of the country's six universities and the postgraduate Weizmann Institute of Science, also fears that the major recent pay award to the country's public sector doctors will be paid for, at least in part by an additional university cut.

Committee chairman, Professor Ozer Schild, the rector of Haifa University, said the budget cuts "will undoubtedly lead to restrictions in the amount of research work here in Israel, which in turn will lessen the chances of new developments and discoveries. It will reduce our ability to exploit the scientific discoveries of other countries."

Schild said that at Haifa University, cuts will result in the loss of 15 teaching posts out of an academic staff of 350, and a similar cut in the number of

technical and administrative employees.

The warning came immediately after the publication of a 99-page report on the state of the universities, containing specific projections until 1988 and more general predictions about university development until 1995. The report was prepared by the planning and budgets committee of the Council for Higher Education, the government agency which supervises university budgeting and development and which represents the universities collectively in their dealings with the government.

Written in sober, formal language, the report affords a grim picture of the current state of affairs and an even more ominous prognosis, if present budgeting trends continue. (The government provides the universities, which are independent institutions, with something over 70 per cent of their budgets).

The report notes that the portion of the state budget taken up by the budget for higher education has steadily declined, while the student body of the seven institutions, now totalling 62,500 students, has grown by 30 per cent over the past decade.

The report's main recommendation is to make a radical restructuring of the steady government cuts in university budgets. In order to function properly, says the document, "The budget of the higher education system must grow in real terms by 3 per cent and preferably by 6 per cent, in each of the next five years. A 3 per cent annual growth in budget in real terms will prevent further deterioration but will not improve the situation."

Professor warns of 'chaos'

from James Hutchinson

BONN

Professor George Turner, whose four-year term as president of the West German vice chancellors' conference ends on August 1, has warned that Germany's university system is heading for chaos unless radical changes are made.

A consequence of overcrowding, he said, was that education in the old sense had been changed into vocational training. It was no use pretending that the system could provide the same kind and quality of education as it did when only a small proportion of school-leavers went to university.

Professor Turner pointed out that in the next decade some 35 per cent of school-leavers annually would be entitled to a university place. The present system simply could not cope with such an influx, he added.

But he said he was confident that in the end common sense would triumph, and that across party, political and ideological borders a form of grand coalition in the education sector would be brought about.

Professor Turner, the vice chancel-

lor of Hohenheim University, near Stuttgart, will be replaced as head of the vice chancellors' conference by Professor Theodor Berchem of Würzburg University.

"We can argue about which system is best," said Professor Turner, "but I'm prepared to accept any system that does away with the present inordinate long courses and leads to graduation at a reasonable age."

Professor Turner, the vice chancel-

House and Gardner

from Charlotte K. Beyers

PALO ALTO

The new president of the University of California, Mr David P. Gardner, is to buy a new house at a cost of more than \$300,000. In addition, Mr Gardner - who will pay \$250,000 towards the house himself - will receive an unspecified annual housing allowance and "hands to pay maintenance and utilities".

The balance of the purchase price will be loaned by the UC regents at an interest rate of 6.11 per cent. Mr Gardner's appointment on a \$150,000 salary - about 60 per cent more than his predecessor - has already sparked controversy on the UC campus, where students have been complaining about the rise in fees.

Gardner decided that Blake House, home of UC presidents since 1967, was unsuitable because it has only two bedrooms and does not provide sufficient privacy. The Gardner's have two daughters who will live at home and two others who spend part of the year at home.

A study of the most appropriate use for Blake House is now under way.

Collider approved

A powerful linear collider that will

slam electrons and positrons together at energies of 100 billion volts has just been approved by President Reagan. He signed a bill for \$32m of a total of \$112m for the new device which will be built at the Stanford Linear Accelerator Center on the campus of Stanford University in Palo Alto, California.

In this new machine, two beams from the existing two mile linear accelerator will be bent around and focused into a microscopic spot. One beam will contain electrons while the other will be made up of positrons. When these particles collide, the original particles will be destroyed releasing the energy from which new combinations of subatomic particles will appear. The SLC will produce these collisions at the highest energy level in the world.

The traditional method for producing these collisions has been with storage rings, in which magnets keep the two beams circulating in a race-track pattern, passing through one another millions of times each minute. The linear accelerator at the European Nuclear Research Centre (CERN) in Geneva works in this way.

Graduation day for China's child prodigies

by Peter Mauger



Mr Liu: director of student affairs at the university

The Chinese University of Science and Technology in Hefei has just graduated its first juvenile class. In 1978 this university, perhaps the most prestigious in China, enrolled 92 exceptionally bright children under 16 years of age, running a special class for 20 of the most gifted, some of whom were only 11 or 12.

Diagnostic tests on entrance showed outstanding qualities of memory and comprehension but a lack of education in basic theory and an inability to express themselves adequately on paper. This was hardly surprising since most of them had barely finished primary school, and had concentrated on

scientific subjects, largely by private study.

They were given a special preparatory course before starting on the five-year university course proper. The student/teacher ratio of 2:1 (Hefei had at that time 2868 undergraduates and 1403 teaching staff), generous even by Chinese university standards, enabled the youngsters to be given an adequate grounding in general subjects.

Visiting the university in 1981 I was told that special measures were being taken to prevent an imbalance in their intellectual, physical, social and emotional development. Rest and recreational periods were carefully planned, there were regular medical check-

ups and they were sent home on holiday more frequently than the adult students.

Most of them specialized in mathematics and physics; to broaden their interests they had lectures every Saturday on various topics in dynamics, chemistry, biology, earth and space science, radio and electronics, and "sometimes" literature and philosophy.

Sixty six of the first intake (70 per cent) have passed examinations for graduate studies at universities and research institutes in China or abroad. Gan Zheng and Wu Yan, for instance, were second and fifth respectively in the physics exam given by Chinese and

American departments responsible for sending students to the United States. Xie Yumbo, enrolled at Hefei when 11 years old, is now a graduate student in the Theoretical Physics Institute of the Academy of Science - at the tender age of 16!

The experiment is still under close scrutiny; a teacher in charge of one of the special classes said that the feasibility of assigning jobs to such young people who are bound to lack maturity still needed to be tested. "We are evaluating the data," he said. The university now has 102 of these exceptionally gifted young students, and plans to enrol 25 more this coming October.

Finland feels effects of cash squeeze

from Donald Fields

HELSINKI

Economic uncertainties and an increase in debt-servicing are forcing Finland to reduce its educational growth targets in the short and medium terms. But officials emphasize that no actual squeezes in real spending are envisaged.

In its overall budgeting, 16.7 per cent of which has gone on education and related items in 1983, the ministry of finance has scaled down its annual average GDP growth predictions to 2 per cent for the next five years. Since more than half this increase will be absorbed by payments on a growing foreign debt, the money available affords a boost of less than 1 per cent yearly to central government expenditure.

Extrapolation of statistics in one official survey shows that the ministry of finance will countenance a mere 0.3 per cent real increase in spending on education until the end of 1988, against 2 per cent for all government outlays and the 1.1 per cent projected by the ministry of education itself. This would reduce education's share of the budget to 15.3 per cent.

Hard bargaining between the various ministries and the government's fiscal overruns will reach its climax in the weeks before the 1984 budget is published in September. Early indications are that education will fare worse than average next year, though in allocations for 1983 it enjoyed a 13.4 per cent boost, against 10.1 per cent for all public expenditure and a 1982 inflation rate of 9.2 per cent.

Interviewed by the newspaper *Hufvudstadsbladet*, one of the two ministries of education, Mrs Kaarina Suonio (Social Democrat), admitted that the finance ministry was exerting strong pressure to induce cutbacks, especially in higher education.

However, it is still too early to say which category will be most subject to the scalpel: comprehensive, senior secondary, or university education.

But officials stress their inflexible commitment to the vocational sector, which will be allowed to expand as previously planned.

The government's latest biennial medium-term blueprint for higher education, published in the spring, recommends that the number of students remain unchanged, and that no new universities should be embarked upon.

This summer the ministry of finance has come out against the building of any new premises, even at existing universities, for the next few years so that funds can be released for the procurement of equipment. Earlier, a ministry of education report recommended a real increase of 27 per cent in funds for equipment from 1984 to 1986, followed by a 10 per cent increase until 1988.

The ministry's remit extends to science culture and sport - the responsibility of a second minister, Mr Gustav Björkstén. It is in these non-scholastic pursuits that most money-related controversy is now raging. If implemented, it is claimed that a recent high court ruling that arts festivals and concert promoters should pay a 35 per cent tax on all foreign performers could cripple Finland's cultural life. Finnish artists and intellectuals, markedly isolated from the outside world by what smacks of philistinism.

On the other hand, exorbitant expenditure is favoured by the party representing Finland's 6 per cent Swedish-speaking minority on a television channel to serve the coastal tracts in which its voters are concentrated.

Mr Björkstén, a Swedish party nominee, argues that the school of thought would be deprived of invaluable contact with the outside world by what smacks of philistinism.

The "cost channel" appears to be part of a trade-off made by the Swedish party when it forfeited the foreign ministry to the centre, one of four parties in the present coalition. Since the 300,000 Swedish speakers already enjoy a separate radio channel, a disproportionately high share of existing television time and plenty of subsidizing, the project looks fairly ludicrous in the context of caution over public expenditure.

Ban lifted on Japanese professor

The Australian government has lifted a

two-year ban on the entry of a prominent Japanese academic and pacifist who was accused of links with a terrorist group.

The Australian ministry for Immigration and Ethnic Affairs, has ruled Professor Rokuro Hidaka was not a security risk and would be allowed to visit Australia. The government's review of the Hidaka affair follows two years of vigorous lobbying by academics in universities in Australia and Japan.

Professor Hidaka first applied for a visa in December 1980, after Monash and La Trobe universities had invited him to visit for nine months in 1981. The then Fraser government refused to supply a visa.

It is now understood that Professor Hidaka will soon receive another invitation to teach in Melbourne. The visa ban on Mrs Hidaka will remain.

Spain to set up defence institute

from Sarah Jane Evans

MADRID

Recent developments in Madrid mark a new stage in the changing relationship between the military and civilian society. The formation of closer ties linking the military with the universities only emphasizes the newness of Spain's democracy, and the short passage of time since the failed coup of February 28.

First, Madrid's Complutense University, headed by former socialist (PSOE) deputy Francisco Bustelo, and the Centre for Advanced Studies in National Defence (CESEDEN), run by Admiral Rubalcaba, ran a conference in closed session which agreed to close cooperation between the two institutions. They plan now to run a series of conferences in order to create at the university an "Instituto de Defensa Nacional".

One of the speakers at the confer-

ence, Professor Diaz Nicolas, noted that general lack of understanding among academics of the military. This, he said, was a consequence of the military's poor reputation in university circles, and suggested that it arose from the identification of the armed forces with the previous regime. General Cano Havia, director of the army's Escuela Superior, speaking at the winding-up session, said that neither the Army nor Spain's military in general should have its own politics: "Our policy is the State's."

The second development has come from Spain's academic sociologists: the Association Castellana de Sociología who set up several sessions at the university on "The Institution of the Spanish Military", in the Process of Change. This was arranged in cooperation with the Ministry of Defence, and say the organizers, was the first rigorous analysis of the armed forces.

Angela, believes the "access" courses could help him resolve what could become a major headache for

Reform champion to lead Afrikaner brotherhood

from Carolyn Dempster

JOHANNESBURG

The deep political divisions within South Africa's ruling white Afrikaner elite has become a major issue in academic, with the recent appointment of a top educationist, Professor Jan Pieter De Lange, as the new head of the powerful secret organization the Afrikaner Broederbond (brotherhood).

The change in *Broederbond* leadership has wide ramifications, both educationally and politically.

Professor De Lange, rector of the Rand Afrikaans University in Johannesburg, is better known as the chairman of and guiding force behind the historic document on education reform, the De Lange report. The report, which was handed to parliament in September last year after a two-year investigation of the deepening education crisis, was hailed as the most dynamic and forward-looking study on education ever produced in this country.

The professor served as chairman of the main investigating committee and was later appointed head of the working party whose function it was to collate comment on the report and submit recommendations to the government.

Politically, the professor is regarded as a *verligte* (enlightened) Afrikaner. His views closely parallel those of the ruling nationalist party, minister of national education Dr Gerrit Viljoen and in many respects fit in with prime minister P. W. Botha's reformist policies.

He has endeavoured on every occasion to maintain a balanced objective

position, and has always avoided political debate in discussing education change.

However, with his appointment as chairman of the *Broederbond*, a secret organization instituted to further the aims and ambitions of the Afrikaners people and their culture, his impartial position is now seriously in doubt.

Educationists who had hoped for wide-reaching education reforms in all spheres, particularly in black education, now fear that the government was not sincere in its initial approach to the education crisis. It is also felt that Afrikaner interests will continue to be promoted ahead of the interests of other population groups.

The issue is extremely pertinent because the government is expected to give its first response to the De Lange report recommendations when the third session of parliament begins next month.

The split within the *Broederbond*, with conservative Afrikaners ranged against *verligte* Afrikaners has also had a ripple effect on Afrikaner student politics.

At the annual congress of the Afrikaners *Studentebond* (student body) only a week after the upheaval in the *Broederbond*, student leaders battled to maintain a facade of unity. The students are themselves politically divided in their support for the nationalist party and the breakaway conservative party, but maintain that Afrikaner national education is above party political differences.

As a result debate at the congress was confined to conservative cultural issues and the students refused even to openly discuss Prime Minister P. W. Botha's new constitutional proposals.

Access appeals to Africa

by Richard Lapper

The education and culture secretary of Namibia, the South West African People's Organization (SWAPO), Nahas Angula, was in London last week to extend the liberation movement's search for education aid. Two recent developments on the educational scene here are of particular interest to the Namibians and could point the way to a new direction in British development aid.

While in London, Angula, the Luan-da-based secretary who is spearheading SWAPO's preparations for eventual independence on the education front, held talks with government officials and aid agencies such as World University Service (WUS), over the possibility of making pre-university access courses and training courses for teachers of English as a Second Language available to SWAPO-sponsored Namibian students.

The "access" courses, which provide an alternative means of entry to higher education for adults lacking formal (traditional) entry requirements, are already running in a number of other education colleges in Britain.

Although they were designed with Britain's own ethnic minority groups very much in mind, they could provide unique benefits for third world students whose secondary education often finishes leaving them short of British university entry levels.

Angula, believes the "access" courses could help him resolve what could become a major headache for

SWAPO - manpower needs in an

independent Namibia. Although SWAPO will encourage existing civil servants - the vast majority of whom are white South Africans - to stay on after independence, it fears many of them may decide to leave, leaving a new government desperately short of trained manpower.

Namibia's anachronistic colonial education system was designed to "keep the natives in their place," says Angula; only a tiny percentage of blacks finish secondary education - the number passed 100 for the first time in 1981 - and as a result scarcely any blacks can be found within the civil service.

Because so few Namibians have finished secondary education relatively few are in a position to benefit from university training and Namibia will be inevitably short of top level technicians and administrators when independence finally comes. Britain's "access" courses, combined with six-year sandwich packages, which would enable a smooth transition through to university could help resolve that.

Meanwhile Britain may also be able to help out with another urgent SWAPO need - training for teachers of English as a Second Language. SWAPO has already declared English to be a future official language.

Teaching English as a Second Language however involves skills which can be difficult to acquire and for this reason SWAPO would like to see a big increase in the numbers of Namibians being trained here.

Fighting back from the deep end



Richard Weekes talks to swimmer Adrian Moorhouse about his career home and abroad

Going to America was absolutely the right thing for him.

Moorhouse's experience of the North American sports scholarship system has proved less fortuitous. Yet his decision to cut short the school year and come back to England in April had nothing to do with academic difficulties, nor with any discomfort with the way of life on the West Coast. "I love it out there, and I was getting good marks, two As and a B in my first term."

It was the swimming which was the problem. Things weren't made easier by Moorhouse's arrival in January, after the intensive training period which US college swimmers undergo in the autumn. As a star recruit to the Berkeley swimming programme, he found himself thrown in at the deep end of the intercollegiate circuit, jettisoned back and forth across the country from meet to meet, with no time for proper training or build-up to each event.

"The coaching was all wrong," he says. "I was used to doing a lot more work at Leeds." But his younger brother Stephen, a fair-weather swimmer himself who wants to follow in Adrian's footsteps with a water polo scholarship to America, and who is as colourful as Adrian is reserved, has his own ideas of what really stung his brother into coming home. "He was getting beat," he says, "and there's nothing a top class athlete likes less than getting beat."

The NCAA championships were the last straw. Moorhouse finished 15th, not long afterwards the phone rang in Bingley at 4am. "I've packed my bags, I've bought the plane ticket, I haven't told the coach and I haven't told the university. I want some advice." To which Moorhouse replied: "If you've done all that, it's not advice you want. It sounds like you've already decided."

Now he is back at Leeds under the wing of British coach. "At least he had the courage to say, 'The Olympics are my main goal, and I will do whatever I need to do towards that, even if it upsets people,'" says Denison.

One of those immediately upset was Alan Hyme, team manager of the British swimming squad for the World University Games. Hyme had Moorhouse pencilled in for the breaststroke at Edmonton, but after seven weeks of solid competition, the swimmer decided he could not face another punishing transatlantic journey. "You have to rest down" for important competitions," he says, and with the European championships looming up next month, he has been taking it relatively easy in the run-up to the national championships at Coventry last weekend when he successfully defended his 200m breaststroke title. It is a long way from Berkeley to a West Yorkshire further education college, but it will be in the confines of the latter that Moorhouse will now spend his run-up year to the Los Angeles Olympics. Denison is encouraging him to make his A levels.

Berkeley say they want him to carry on his degree after the Olympics, but that may depend on his failure to win a medal in Los Angeles. The dream is that Olympic gold will bring with it commercial offers enabling him to make the jump from amateur to professional. It is a jump which, as both he and his family realize, very few swimmers have made.

At a recent Northern Counties swimming gala at Shipley, Moorhouse touched home yards up on his nearest



Moorhouse: now look back in Britain after abandoning his swimming scholarship in California

challenger. Barely a ripple of applause disturbed the occasion. Brother Stephen shook his head in disgust. "You wouldn't believe that's the British No 1, would you? And then you see tennis pros picking up £60,000 at Wimbledon."

"You ask the man in the street if he can name any swimmers. He'll probably come up with Wilkie and that bald fellow who swam in the Olympics. Whether he has succeeded in cashing in on Olympic fame, but as Denison points out, the paradox is that they were thereafter lost to competitive swimming."

Part of the problem lies with the Amateur Swimming Association, a governing body which has shown an inclination that most to come to terms with commercial pressures in sport. The result is an almost uniform sense of alienation among the athletes, leading to moves like the founding of the National Swimmers' Club by Brighton Polytechnic student, Ricky Burrell, in April to give a voice to their concerns.

ASA, says Moorhouse, "though it's probably wise to them through the NSC. But amateur status is the big barrier. People want you to do promotions all the time, and you can't."

Athletics has recently moved to allow athletes to have money paid into

a fund for their future security, but swimming has yet to follow. "It's a very short life," says Denison. "You've got your glory at the end of it, but not much else. Career-wise, you're starting all over again."

For the moment Moorhouse is willing to accept that his educational second chance has come and gone in the shape of an abortive term and a half at an American university. Whether he has to ask for a third chance depends largely in the work he puts in at Leeds pool between now and next summer.

He saw off the challenge of the Soviet champion, Dmitri Volkov, at an international meeting in Leeds this summer, but his main target remains the American world record-holder, Lundquist, whose time of 1 min 23.3 sec for the 100 metres breaststroke is now concentrating the minds of Moorhouse and his coach. "The films of the world championships showed that Adrian has the basic speed. He's as fast as Lundquist, but he lost it on the technical areas. At the start and on the turns," says Denison.

So has Moorhouse got the belief, he is hungry enough to be a champion? "Oh, he's got that all right," says the coach. "But a lot of people believe they can win a gold medal - only one of them is ever right."

The Finniston report on engineering that students should receive a certain amount of practical training through the universities.

The centre will have academic related staff of one senior training engineer, and two training engineers with nine training instructors, and students' work will include welding, wiring, sheet metal work, making printed circuits, and working with machine tools.

Second year students will undergo training programmes which suit their particular specialisms, but will also work in all parts of the centre to become familiar with work in other forms of engineering. Finniston also proposed a higher level of practical training in university, and fourth year students will be involved in "design, make and develop" projects, with second year students working to their instructions.

The university feels the new centre will enable students both to "get their hands dirty" working on fabrication and "machining equipment, and to "keep their hands clean" while working with electrical and electronic material. It is also hoped the centre will attract people from outside the university.

The engineering industry in Scotland may be at a fairly low ebb at present, but Strathclyde is doing its best to improve the quality of graduates in the hope of ensuring engineering a brighter future.

Olga Wojtas looks at Strathclyde University's enhanced engineering course, whose first students have just graduated

All-rounders in an industrial world

calization, says the course supervisor, Mr William Scott. "Industry wants one or two people like that, but not many. We felt if someone was going into the basics of the different branches of engineering."

A quarter of the Strathclyde course is on business topics, such as industrial relations, business economics, and marketing. A language class is also available, with courses in French, German, Italian and Russian.

"The students say they are consciously changing gear when they move from the numerical to the verbal, and they didn't want to be bothered with verbal thinking. But those who remained have ended up much more able to express themselves than many of the other engineering graduates," says Mr Scott.

Nobody would deny that the course has been demanding and aimed at the most able students. Many of the new graduates will command starting salaries of some £2,000, but around a quarter of the original entrants brought in other courses during the first two years of the degree.

Mr Scott stresses that the new degree has not been designed to replace the traditional engineering degree, but to complement it. He says that the new degree is designed to give students a broader base, and to enable them to move into other areas of engineering, such as electronics, or into management.

Strathclyde hopes to gain a reputation for producing graduates who are not only technically competent, but who are also well-rounded individuals, capable of handling the demands of a rapidly changing industrial world.

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The engineering industry in Scotland may be at a fairly low ebb at present, but Strathclyde is doing its best to improve the quality of graduates in the hope of ensuring engineering a brighter future.

Campus breaks new ground

By the standards of Japanese history, Tokyo is, in a manner of speaking, a new town. During the seventeenth century when it was established, it rapidly became the administrative capital of Japan; today, it is home to nearly 12 million Japanese. It is also the much favoured location of more than a hundred colleges and universities.

Since the war, Tokyo's popularity with students and a rapidly expanding number of institutions alike have created a headache of growing proportions for planners at the Ministry of Education, Japan's powerful and notoriously conservative ministry of education, science and culture. Thanks to the economic miracle, between 1960-75, the enrolment rate for 18-year-olds entering higher education in Japan rose from 10.3 per cent to 37.8 per cent, boosting overall student numbers from 2.1 to 6 million. Skyrocketing Tokyo land prices made renewing and expanding university facilities an increasingly expensive proposition.

While by the late 1960s, student protests swept across university campuses, Students took to the streets demanding reforms which established universities had managed to avoid since the war.

Tokyo Kyokko Daigaku (Tokyo University of Education), as it was in the late 1960s was a prestigious national university which had been founded in 1872. Faced with increasing problems in Tokyo, the university opted to join forces with an ambitious new town project being developed on a green field site of central Tokyo, 38 miles to the north-east. Known variously as Tsukuba Science Research City, Tsukuba Academic New Town, Tsukuba Technopolis - even the City of Brains - Tsukuba (named for a local mountain) represented an attempt to redistribute a number of research and administrative institutions from Tokyo to the countryside, and to create a new town possessing a high concentration of high technology research and education facilities.

In 1973, the former Tokyo University of Education (Tokyo Kyokko Daigaku) became a reconstituted Tsukuba University. Relocated, greatly expanded, additional schools of medicine and engineering, for example) and considerably reorganized and restructured, Tsukuba remains the great white hope of Mombusho, the first of what it is hoped will become a series of new model universities capable of carrying Japan into the post-industrial future.

The Mombusho University, as Tsukuba is known throughout the university community, is not without its critics. Mombusho presents Tsukuba as an attempt to satisfy demands made by a system and by outsiders (particularly in Asia) who want to see higher education in Japan internationalized. Mombusho's concern to bring about more varied admissions policies and more interdisciplinary teaching reflects a growing preoccupation: the fact that Japan has managed to produce only six Nobel laureates to Britain's 77 soon crops up in almost any discussion of higher education policy in Japan. Outsiders' clichéd notions about good originality and intuitive leaps have set off alarm bells at the ministry.

The university itself has gained something of a right-wing reputation with Japan from those who see its remoteness from Tokyo and even its expensive physical layout (a bicycle is an utter necessity) as Mombusho's deliberate attempt to ensure political docility. It has been very generous with Tsukuba's staffing (1,950 teaching faculty for 8,700 students) and facilities. (£350m to set it up, an additional £107m spent on running costs during its first decade of operations), but its influence is said to be greater and more direct than in any of the other 93 national universities. Student demands are prohibited and Japanese specialists in Britain have commented on the American-style social approach of the humanities research reaching them from Tsukuba, not particularly fertile ground for the left.

Tsukuba does, however, represent an ambitious attempt to put right many of the most commonly criticized features of traditional Japanese universities: the factionalization and isolation of powerful individual departments and their chairman which has resulted in little interdisciplinary teaching or research; cooperation and intra-

university exchange; over-emphasis on research to the detriment of undergraduate teaching; narrowly based entrance criteria (source of the infamous "examination hell"); and the closed nature of the system generally to overseas students (and to a lesser extent, to overseas faculty).

Dr Tadashi Sato is Tsukuba's vice president for academic affairs, one of five vice presidents in Tsukuba's highly centralized management system, which was itself designed to help break the stranglehold of traditional university departments over curriculum, personnel and finance. A trilingual, Sorbonne-trained geologist, Dr Sato divides his time between administrative responsibility and research and teaching. He came to Tsukuba in 1974, after 13 years at Todai (Tokyo University), the cream of the traditional system. "I am happy here... I feel much freer," he confesses. Conceding that traditional departmental autonomy is "one of the weak points of traditional Japanese universities," he argues that "the most important and difficult problem in Japanese higher education is fostering a sense of originality and creativity in the students."

The structure of Tsukuba is markedly different: Mombusho claims to have based some of its thinking here on the models of Sussex and the University of California at San Diego. Although research and teaching remain functionally integrated, they are administratively distinct. The education system contains three elements: three "clusters of colleges" (12 in all, containing 4,600, four-year undergraduates), three professional schools (1,900-plus), and graduate schools (2,250) which offer two-year MA and five-year doctoral programmes. Graduation is based upon accumulation of a requisite number of credits in four groupings: physical education and

foreign languages, for example, are compulsory.

The research system is centred on 26 university research institutes to which all faculty are attached, along with postgraduate students. Although staff may teach courses in several different colleges, research is confined to particular institutes and research projects are specifically limited to five-year terms though interdisciplinary research teams and inter-university research are encouraged.

Central to the success of the previous innovations is the management system which concentrates administrative responsibility in an administrative secretariat and university-wide policy making in a centralized administration. Tsukuba's university senate is the only one in Japan established in law; from its ranks the faculty elects a president who in turn selects his five vice-presidents. Faculty appointments at Tsukuba have been taken out of the hands of departmental chairmen and are made by a university-wide faculty personnel committee.

So much for the theory; the reality is rather more complex. Although it has been established for a decade, the university is still affected by new teaching troubles which are predicted to continue for at least another decade. Only 50 per cent of staff live on or near campus; the rest generally pack their work into two or three concentrated days and continue living in Tokyo - which is two hours away door-to-door thanks to the absence of direct rail connections. There are frequent complaints about inadequate local schooling, shopping facilities or the difficulty of getting to and from the university. Dr Sato says: "There were no facilities here when the university was established. The first thing I bought when I moved from Tokyo was a big fridge and rubber boots."

How does Tsukuba appear to a Western eye? Brian Boeking, from Stirling University who recently completed a year as a visiting foreign lecturer, felt generally at home. "Japanese social values apart, it didn't seem that different to me," he said, though he admits that those from traditional British universities would find the contrasts quite marked.

He found personal contact with students less personal and more limited, with much of the undergraduate teaching limited to single weekly lectures of 1½ hours; the comparatively large gap in relative status between faculty and students persists, though he added that if the traditional *sensei-deshi* (master-disciple) relationship develops - especially at postgraduate level - it is much stronger than in Britain.

"What I did like and what impressed me is that learning for its own sake still seems to be considered valuable at Tsukuba," which he contrasted with the danger minority subjects face in Britain given the present preoccupation with relevance. "I also liked the great emphasis on inter-personal loyalty which is reciprocal and which makes it possible to put all your effort into working within the institution."

On its 10th birthday, it is possible to say whether Tsukuba is succeeding? The response is initially cautious: like the Chinese proverb, "It takes time to see the significance of the Norman Conquest... it's too early to tell."



Suburban sprawl... part of the Tsukuba site 38 miles to the north-east of Tokyo

Michael Houser reports on the 'City of Brains' the vast academic new town Japan has established to break away from traditional universities

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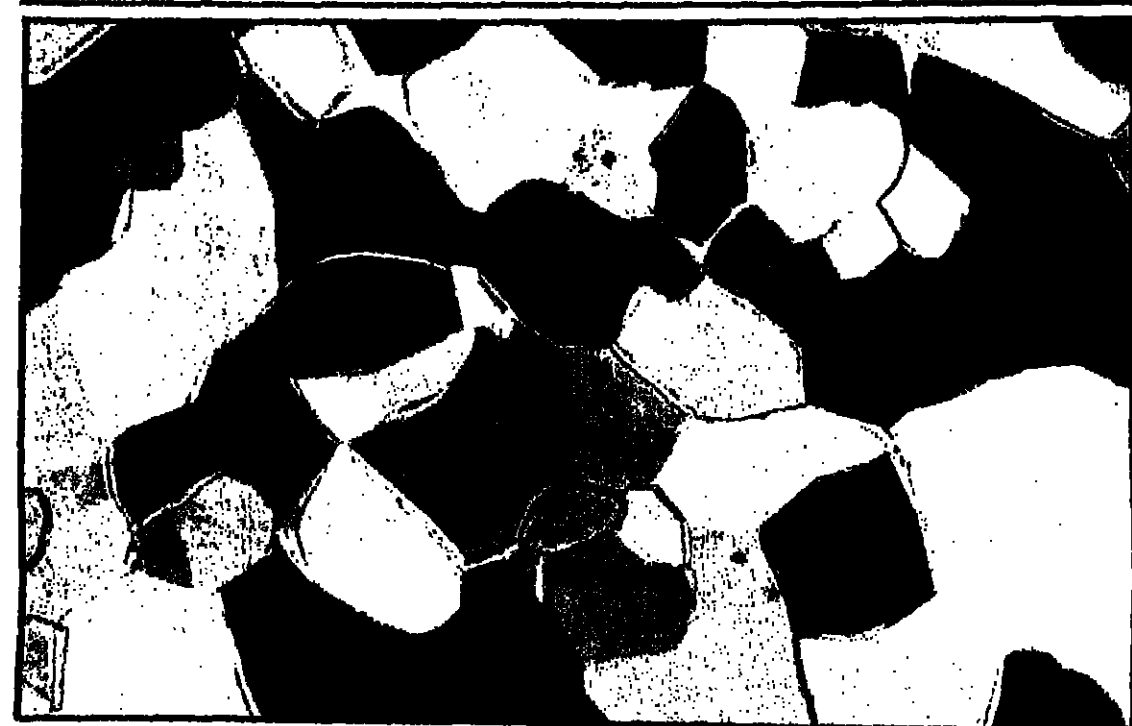
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Liquid crystals, have structured layers and produce a mosaic texture when viewed using a polarizing microscope. Each domain is a single, undeformed crystal consisting of plane layers.

It hardly seems possible that a discovery by an Austrian botanist, Friedrich Reinitzer, in 1888 could have relevance to the thermometers used in the Apollo space program, or to a complex new type of television display. Yet his observations seemed a fascinating field of scientific endeavour which has blossomed over the past decade.

Most school physics texts state solids, liquids and gases make up the three states of matter. However, almost 100 years ago, when Reinitzer prepared cholesteryl benzoate, he discovered a new phenomenon; the substance had two interesting properties. On heating, the crystals melted at 145°C to form a cloudy liquid which became clear at 179°C; on cooling, the process was reversed. Even more curious were the colour changes in the turbid liquid which seemed to be acting like a polarizing electron pointer, scanning the spectrum from red to blue as the temperature increased and blue to red as the system cooled.

Since these early observations, researchers have found that during the transition from a true crystal to a true liquid, thousands of organic compounds pass through an intermediate phase which is termed liquid-crystalline. Such "liquid-crystals" exhibit some characteristics of both the solid and the liquid states, but also possess unique properties not observed in either solids or liquids. Liquid-crystals are thus considered to constitute a fourth state of matter. One distinguished researcher in this field, Professor Pierre G. de Gennes, has said: "Liquid-crystals are beautiful and mysterious; I am fond of them for both reasons."

Despite the interest shown in liquid-crystals during the 1930s by such eminent theoreticians as William H. Bragg, Louis de Broglie and Max Born, research on liquid-crystals was not to come until the late 1950s and early 1960s. When an international meeting on liquid-crystal

Displaying liquid facets

George Gray explains how university chemistry has stimulated technological advance by using liquid crystals

was held in 1958, it was the first for 25 years.

The next 25 years saw a meteoric rise in the number of scientists attracted to this field because liquid-crystals were no longer regarded as chemical curiosities, but as technologically important materials. One of the early boasts was the development in 1968 by RCA Laboratories of the first practical display device based on an electro-optical property of certain liquid-crystals. However, the early displays suffered from problems of impurities and instability and only a few of the 3,000 or so liquid-crystals then made were able to operate at room temperature.

The turning point came exactly a decade ago. In 1968, Dr K. J. Harrison and Dr J. A. Nash at the University of Hull, synthesized an extremely stable family of materials which have liquid-crystalline properties at room temperature. These materials were ideally suited to the production of low-voltage, fast-switching displays.

The breakthrough led to the chemistry department at Hull University receiving the Queen's Award for Technological Advancement in 1979, in conjunction with BCI Chemicals and the Solid State Physics and Devices Division of the Royal Signals and Radar Establishment. The awards were given for contributions to the "research, development and large-scale production" of these liquid-crystal materials. The close collaboration between a university department, a government laboratory and an industrial company is an excellent example of how academic research in chemistry can meet real market needs and help create new technologies. This close liaison continues and covers the production of new generations of liquid-

crystal materials for the display industry. Liquid-crystalline phases that form naturally over a specific temperature range can be classified into two main types, depending on the degree of long-range order (repetition of atoms or molecules) that is retained when the solid melts. One is known as smectic, from the Greek, *smekma*-tos - soapy, a term which neatly describes their greasy or soapy properties. Liquid-crystals in the smectic phase have their rod-like molecules arranged in layers, with their long axes parallel. Liquid-crystal molecules in commercial use are usually rod-like, but some are known to occur which have large plate-like or disc shaped molecules. Others are long chain molecules known as polymers.

The other type of liquid-crystalline phase is termed nematic, from the Greek, *nema*-tos - thread, and is so called because of the thread-like pattern observed when viewed through a polarizing microscope. Here the molecules retain a parallel alignment, but are randomly positioned, not layered. Nematics are the type of liquid-crystals most used in display devices. This phase is closer than the smectic phase to the structure of a true liquid in which molecules show completely random orientation.

The type of liquid-crystalline behaviour noted by Reinitzer in cholesteryl benzoate led to the use of the term "cholesteric". Strictly speaking, this is a twisted form of the nematic in that there is no layering and the molecules are randomly oriented. The direction in which the molecules are aligned however, forms a screw-like arrangement, a feature which leads to the colour change effect. The pitch of the helix can be made roughly equivalent to the wavelength of visible light and changes with temperature, hence the reversible colour change. The colour can also be changed by pressure and impurities. Not surprisingly, some organic compounds exhibit more than one liquid-crystalline phase. As the temperature is raised, order is progressively destroyed. The material passes from the solid phase through one or more smectic phases (none are known), becomes less ordered and progresses into the nematic phase, and then eventually becomes an isotropic liquid with no long-range order.

A completely separate class of liquid-crystalline materials are known as lyotropics; these are formed by the action of a solvent on a solid. A typical system is the soap/water mixture. Lyotropic liquid-crystalline systems are of great importance in the manufacture of certain organic compounds. Research into lyotropics is helping scientists to understand the structures of biological membranes and the behaviour of cancer cells. Indeed, hardening of the arteries is a result of the deposition of liquid-crystals of cholesterol on artery walls. Cells involved in sickle

cell anaemia also have liquid-crystalline structure.

The main use for liquid-crystals is in display devices. According to Dr Ian Shanks, formerly of RSRE, "more than half of the liquid-crystal displays manufactured across the world" still use the cyanobiphenyl type of liquid-crystal. Only 14 years after RCA's initial disclosure, liquid-crystal displays are ubiquitous in homes, shops, businesses and research laboratories as an essential part of digital thermometers, pocket calculators, electronic games, wristwatches and clocks.

In a typical display, a small amount of nematic liquid-crystal is placed in a thin, flat optical cell. The cell walls are coated with a transparent conducting film. On top of this is a thin film of polymer which is rubbed so as to orientate the already aligned molecules in a particular way. The application of an electric field disturbs the orientation and thus changes the optical appearance. Effecting such optical changes requires very little power, typically 1µw/cm². Modern displays are reliable, versatile and easy to read under ambient light. There are now a variety of display effects; one type uses dyes to produce coloured displays. These third generation devices have applications to portable personal computers and many other information products publicized during information technology year.

In these displays a single lead carries multiplexed alpha-numeric text or limited graphics. This is a tremendous advance from the first generation displays; used in clocks and watches, which involved a simple seven-segment system, and a significant advance on the second generation devices used in pocket calculators, which employ multiplexing to drive up to four picture elements per electric lead. The trend towards matrix addressing techniques for the display of alpha-numeric characters, graphics or pictures continues, and one asks when the next (fourth) generation of displays might appear.

In a 1975 article entitled "Whatever happened to flat-screen TV?" (*New Scientist*, April 10), Martin Tobias said that such liquid-crystal television displays were already available in research laboratories throughout the world. Progress in this successful commercialization of such devices has been slow, but pocket television sets are now being mass-manufactured by firms such as Casio, Hitachi, Toshiba and Matsushita. The Matsushita device consists of a 36 x 48 mm screen and contains a 240 x 240 matrix of display elements each of which has its own special transistor fabricated on a silicon wafer behind the display. Bearing in mind that liquid-crystal displays are now valued in value only to cathode ray tubes in the TV area.

Cholesteric liquid-crystals are extremely sensitive to temperature, and their striking but subtle colour changes can be used in hospitals to map the

Lucid: the typical sharp image produced by liquid crystal displays on calculators, watches, clocks and games have become a part of everyday life.

surface of the skin to detect breast cancer, locate the placenta of a foetus, or diagnose pulmonary disease. They are also being used in disposable thermometers, for the non-destructive testing of electronic components, in recovery, and in chromatography for the separation of difficult materials.

Liquid-crystals are "specially chemicals" - produced and sold to other industries because of their unique properties. They are attractive products for chemical companies to manufacture because they can be sold at higher prices than ordinary commodity chemicals. The requirement of long-term stability, however, often necessitates the manufacture of products that are more than 99.9 per cent pure. There must be rigorous quality control of the raw materials, careful separation of intermediates in the various stages of manufacture, and exacting purification of the final material. The total processing time for one of the most important cyanobiphenyls (5CB) is three to four months. The world production of liquid-crystals for displays some five to seven tonnes annually, and 5CB, once the largest single item, now forms less than 10 per cent of the total. This underlines the fact that there are now a larger number of materials available; however they are competing in a larger market.

Some display devices may contain a dozen or more liquid-crystalline materials. The main reason for using mixtures is to allow "tuning" of liquid-crystal properties to meet the precise engineering requirements of the device, particularly in a working temperature range commonly -10°C to +60°C. Most of the liquid-crystal production goes to the display industry, estimated to have a world market of £150,000,000 and set to grow at 50 per cent per annum for the next five years. According to one estimate, (Frederick J. Kahn in *Physics Today*, May 1982, p. 66) some 90 per cent of today's production of twisted nematic liquid-crystal displays for calculators comes from Japan. Fortunately, it is still the Europeans who dominate the market for the supply of the liquid-crystal materials, Britain being one of the world leaders.

In the remainder of the 1980s, it seems likely that the current use of simple liquid-crystal displays on calculators, watches etc., will continue to expand into displays on many items of household equipment, for example, telephones. Displays for instrument panels in cars represent a huge potential market, already beginning to be exploited by Japanese car manufacturers. The more complex displays will be used for portable television or teletext systems. Developments will continue in the physics and chemistry of liquid-crystals to give better temperature ranges and response speeds, and will progress to give an improved understanding of the relationship between molecular structure and physical properties.

There can be little doubt that university research will remain a vital element in future developments. The author is professor of chemistry at the University of Hull and a fellow of the Royal Society of Chemistry.

Open all hours in the best tradition

Robert Anderson defends the liberal education and open access of the old Scottish university system

Academics do not generally know much about university history, nor is there any particular reason why they should. What is considered traditional, or fundamental to the character of the university, usually reflects what was practised when the current generation started work or what they heard then from their seniors. Yet universities change as rapidly as other social institutions, and much of what they do today is of quite recent origin. The value of university history is that it can rediscover the practices of the past and make them available again as a usable tradition.

At present, this myopia is perhaps especially apparent in the idea that the prime task of a university is to educate the 18-plus group for full-time degrees, and that any other kind of activity is at best a marginal one to be fitted in when resources allow, and at worst a betrayal of academic "standards" which are assumed to be unchanging. But in nineteenth-century Scotland the universities had a variety of functions, and a different set of values, which have been overlaid and forgotten as British universities have been assimilated to a common pattern.

This was indeed the message of George Davie's book *The Democratic Intellect*, which created a stir when it first appeared in 1961 (it has recently been reissued in paperback by Edinburgh University Press), and which has continued to be widely read or at least cited, for its arguments are complex. Davie restored to historical visibility the old broad-based curriculum of the Scottish universities, which gave equal weight to classics, philosophy, and science, and whose educational ethos centred on the discussion of general ideas which was promoted by philosophy itself and by teaching other subjects in a non-specialized way.

Davie's book has hardly succeeded in reversing the shift away from broad general degrees even in Scotland, but it has attained the status of a sacred text of nationalism because of the explanation which it offers for the decline and eventual supersession of the old curriculum, an explanation in terms of Anglicization: a once lively Scottish individuality was destroyed after a long struggle between "patriots" who wished to retain and develop the old tradition and "Anglophiles" inspired by the southern university model. And since Davie attributed uniquely "democratic" character to the generalized curriculum, the triumph of English ideas also meant the introduction of an alien pattern of social mobility.

Actually, while Davie's analysis and exposition of nineteenth-century ideas is eloquent and often brilliantly penetrating, the strictly historical aspects of his thesis are unreliable. While Anglicization was certainly a factor in nineteenth-century Scottish society, it was more a consequence than a cause of change. The move towards educational specialization can be most readily explained by looking at the social pressures which arose within Scotland as the growing middle class sought to adapt schools and universities to their changing needs, and at the practical problems engendered by any attempt to make a general "liberal" education acceptable to a large body of students whose aims are utilitarian.

The general nature of the Scottish curriculum was linked with another feature of the universities, equally important and equally fated to disappear. In 1830 a royal commission reported that the Scottish universities have always embraced Students of every variety and description... All persons may attend any of the classes, in whatever order or manner may suit their different views and prospects.

The term "continuing education" had not been invented, but it is clear that the universities' tasks went well beyond educating what the commission called "regular" students.

At both Edinburgh and Glasgow, it was said that only about a sixth of the arts students were interested in de-

grees, and at Glasgow an average of 37 took the MA each year at a time when the total number in the arts faculty was 830. The students who completed the four-year curriculum were mainly those who aimed at the Church or school-teaching. The others included the sons of "merchants" who attended classes for a year or two before going into the family business, and a large number of part-timers who combined university attendance with work in teaching or in offices in the city. In the Scottish law faculties, this system of part-time attendance remained the norm until well into the twentieth century, but earlier it had been just as characteristic of the arts classes, and when chairs were founded in subjects like engineering, education, and political economy, which were not part of the official curriculum, the professors would hardly have gathered an audience at all if they had not been able to appeal to young men already launched on their careers; lectures were given at 8am or 5pm.

In this "pedagogic supermarket", to use J. B. Morrell's apt phrase, the customers varied widely in age and background. By the 1870s the usual age of entry was 16 or 17, but there were many older students - in 1870 23 per cent at Glasgow and 30 per cent at Edinburgh were 20 or more, often considerably more, when they matriculated. Thus a high proportion of students arrived with "lower experience" and this was especially true of the considerable number (perhaps as many as a quarter) who were of working-class origin. The mythology of Scottish education has had much to say about the "lad of parts", the crofter's or shepherd's son who came to the remote parish school. He did exist, but he was a much less common phenomenon than the mature working-class student whose father was a skilled worker or urban tradesman. For both categories, however, the principle of open access was vital. There was no academic test on entry, and an imperfect schooling could be made up for.

As early as the 1820s the elementary nature of these Scottish arrangements was under attack and reformers were demanding that the level should be raised

The six subjects in the traditional curriculum - Latin, Greek, mathematics, logic, moral philosophy, and natural philosophy (physics) - provided both a broad liberal education for those who took them all and some attractive options for those who wished to pick and choose, paying separately for each class. Since the three "philosophies" were each taught in a single annual course, the approach was necessarily a generalized one.

As early as the 1820s, however, the elementary nature of these Scottish arrangements was under attack, and reformers like the evangelical divine Thomas Chalmers were demanding that the level should be raised, chiefly by developing more effective secondary education so that students were older and better prepared when they arrived at the university, and by introducing the kind of competition for honours which had given new life to Oxford and Cambridge. In the 1850s this case for higher standards was taken up again and combined with the new German ideal of scholarship and research. The leading reformers of that period, the classicist John Stuart Blackie and the Edinburgh lawyer James Lorimer, both of whom had studied in Germany, were among the first in Britain to expound the doctrine that the university, in Lorimer's words, "must be at once a magazine and a laboratory of thought. The notion of its being a mere teaching institution, a sort of 'Higher-School' by no



The auld tradition: Professor Blackie lecturing at Edinburgh University

means... exhausts its true idea." Professors should be devoted above all to the advancement of their subjects, and "the university must gather around it those whose most prominent function should be, not the transmission, but the pursuit of truth". Since Scottish thinking had indeed emphasized the teaching function of the universities, these new ideas met with much resistance, and they received only limited encouragement from the reforming commission set up by the Act of 1858 which was the first of the two major statutory reforms of the Scottish universities.

The 1858 commissioners did provide for a scheme of honours, to be taken only after going through the full regular curriculum, but the value of the broad curriculum itself was reasserted. English, already established at Edinburgh, was added to the list of subjects, and the universities could also add a natural science if they wished, though neither Glasgow nor Edinburgh did this. But the principle of a compulsory range of subjects remained intact, and the universities were forced to drop the BA degree, which they had been developing as a shorter alternative to the MA.

The 1858 Act also allowed only minor variations between the four universities, and by giving the curriculum statutory sanction it made changes very difficult without further legislation. This rigidity was unfortunate, since it was just at this time that new demands of all kinds began to make themselves felt. The claims of science and industry were among these, but perhaps more significant was the increasing grip on middle-class life of examinations and formal qualifications for the Civil Service and for professions and careers of all kinds. In the 1860s, a chorus of protest was heard against the rigidity of the MA degree: it was too long, too narrowly attuned to the professional needs of the clergy, too esoteric, with its compulsory Greek, for the average commercial or professional man. The scientist Lyon Playfair thought that the rigidity of the curriculum was losing the universities a magnificent opportunity of expanding their social influence.

The demand for options within the curriculum was the seed of the older demands for higher standards and for a more research-orientated approach, which produced a complex debate, with many cross-currents, on the nature of university culture. This debate was further stimulated by the appointment of a royal commission on university reform in 1876, which included Playfair and T. H. Huxley. Its recommendations went too far in the direction of variety and specialization to be acceptable at the time, and when the curriculum was eventually overhauled, after the second reforming Act of 1889, there was a compromise between tradition and innovation. After 1892 students could take either the ordinary degrees, which were like the old MA but with a wide choice of subjects, or a more specialized honours degree; but although no single subject was now compulsory, it was still necessary for both sorts of degree to choose from each of the traditional fields of classics,

philosophy, and science. This was further modified in 1908, when the pattern of study still recognizable today was finally established. These changes, as had been hoped, led to a great increase in the proportion graduating, and by the 1900s there were few students who did not aim at a degree.

The reforms of 1892 included a compulsory entrance examination, and the disappearance within a few years of the "junior classes". Ever since it had first been proposed in the 1820s, an entrance examination had been strenuously resisted, as likely to deter "lads of parts" and short-term or part-time students, and opponents of the change had argued eloquently and consistently that the universities, as national institutions and by their very nature as universities, should be open to all without the imposition of any intellectual barrier. In 1829, Edinburgh University denounced the idea as "inconsistent with the hitherto unchallenged rights of his Majesty's subjects".

In 1854, a critic of the Germanizing ideas of Lorimer claimed that universities should be "available for all grades of society - for all ages - for all intellects - for all attainments". In 1888 the Edinburgh physicist P. G. Tait declared that "any one who can pay his matriculation fee has... a right to demand enrolment in my class". Today such views seem disconcerting, and conflict with the jargon of "standards" and "excellence". In the nineteenth century the reforming party in the academic world eventually won the day, but to traditionalists an entrance examination seemed as wrong, even morally shocking, as admitting students on anything but a strictly competitive basis seemed to us. Perhaps there is no real contradiction: when university access was naturally restricted by cost and by the limited career value of a degree, free admission to all who were prepared to take their chance in the academic arena was a valid, democratic ideal, but in an age when university education is coveted and when admission is accompanied by mandatory grants, a competitive selection procedure is a necessary guarantee of social justice.

The examination introduced in 1892 was a qualifying rather than a competitive one - anyone who could meet the minimum standard and pay the fees was let in. It accelerated the trend towards a more homogeneous, full-time student body, but it does not seem to have had the effect on educational opportunity which critics had feared, for working-class students remained as numerous as before. Growing prosperity and the greater availability of financial aid made it easier to go to university for the full course. But a more fundamental change was in the relationship between schools and universities. In the early nineteenth century, many observers had pointed out that the Scottish universities were really doing the job of secondary schools, giving a general education to adolescents. For reformers like Chalmers and Blackie, this was precisely what was wrong, and they looked to the development of true secondary schools to release the universities for their prop-

er, higher task.

It was only in the 1870s that this development really began, but within a few decades secondary education had made impressive progress. By 1890 the typical age of university matriculation had already risen to 17 or 18, and this was what made the entrance examination acceptable as it had not been before - the examination itself had only a marginal effect on the age pattern. The new schools were, of course, designed to meet middle-class needs, and as they came to monopolize the road to the university there was a real danger that the working class would be squeezed out; in fact this was avoided, as the provision of free schooling, and scholarships, though extremely limited by modern standards, was probably an advance on the haphazard arrangements for helping the talented poor which had existed in the days of the parish schools. Finally, the growth of secondary education meant that the schools could take over some of the task of giving a "liberal" education, and the broad spread of subjects demanded by the entrance examination gave a foundation on which university specialization could legitimately be built.

Just as those who feel today that specialization has gone too far may seek inspiration in George Davie, so the openness and flexibility of the nineteenth-century universities can provide lessons (and specific precedents) at a time when part-time and continuing education, lifetime educational entitlements, and degrees by credit accumulation and transfer are increasingly dominating the agenda for the future. After all, a century of educational policies designed to promote equality and opportunity has done no more than raise the percentage of working-class students at the Scottish universities from 25 to 30; it is difficult to see how democratization can be pushed any further within the conventional framework, and if the universities are to expand their social role in the future it must be by breaking down the barriers between education, work, and daily life.

In his recent Saltire Society pamphlet *The Crisis of Scottish Education*, Nigel Grant suggested how the universities could contribute to a national plan for "continuous and open lifelong learning". A less ambitious objective, but one still requiring a radical change in attitudes, might be to open degrees on equal terms to full-time and part-time students. What stands in the way of such innovations is partly the academic inertia, inward-looking complacency, and reluctance to take social initiatives which tend to lose the universities the sympathy of politicians of all parties, but partly also a very selective interpretation of university tradition. That is why it is useful to remind ourselves that the Scottish universities have their own traditions of civic culture and community responsiveness.

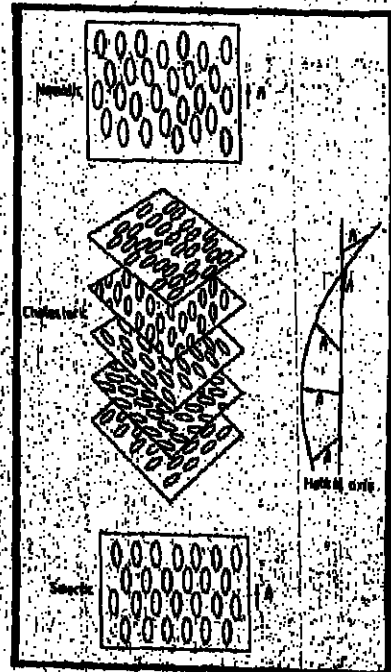
The author is lecturer in history at the University of Edinburgh. His book, *Education and Opportunity in Victorian Scotland*, is published today by OUP.

Throwing light on a flexible type

Liquid crystals represent an intermediate or meso-phase between solid crystalline substances and "true" liquids. The molecules are not symmetrically and usually rod-shaped, and their long axis is aligned according to a preferred direction, given as θ in the diagram.

There are three basic types of liquid crystal: nematics, the least ordered phase have aligned axes while the position of the molecules is disordered; cholesteric liquid crystals have a more complex helical structure; while smectics are more completely ordered about their individual centres of gravity so that they form layers.

Since liquid crystals are fluids, a very small voltage applied to the crystal may cause distortion which in turn leads to a change in the scattering of light. This enables the characteristic dark, non-uniform display now so well known from pocket calculators, watches, clocks and games.



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BOOKS

Economic history for today

British Public Policy: an economic, social and political perspective
by Sydney Checkland
Cambridge University Press, £30.00
ISBN 0 521 24596 6

If every generation needs to rewrite the history of the past, then here is history for today. As the reader puts down his newspaper and picks up Professor Checkland's book he will certainly be transported from the present into the past, but it is a past in which he is encouraged to think about the money supply, the public sector borrowing requirement, the factors that decide the level of wage settlements and such other preoccupations of our own day. The result is far from being a chronicle; on the contrary it is most illuminating.

It is perfectly sensible to ask, as Professor Checkland does, how British society dealt in the past with matters that we now recognize to be central to our own ability to survive in an orderly way. Too often such issues are ignored by historians until the moment when they become a matter of dispute and therefore begin to loom large in the historical records. Such a passive way of following what the material dictates has great shortcomings. If we wish to make sense of what happened in the past, we need to be willing to follow the example of Sherlock Holmes and to comment on the significance of the dog that did not bark, or, if you will, of the Treasury that did not react to changes in the money supply. Far from concluding that the money supply was of no importance, Professor Checkland has rightly decided to place the operation of the banking system and the legislative framework within which this was carried out in the foreground of his history of British public policy. By taking a systematic interest in the whole matter long before governments did, he is also in a good position to alert his readers to the significance of an early limited form of deliberate government policy in this sphere such as the use made of the sinking fund by nineteenth-century Chancellors.

Have concentrated on his treatment of monetary policy in order to make a more general point about the freshness of Professor Checkland's approach. This is equally apparent in his treatment of fiscal policy, of the distribution of the national income between capital and labour and of other matters that students of society ignore at their peril. This approach enables the reader to follow major themes consistently through the period as a whole. Nevertheless any historian who deals with the action of the state from the late eighteenth century to the outbreak of the Second World War is bound to find his subject matter increasing enormously in bulk and complexity towards the end of the period. The years 1914-1939 account for roughly one third of the book, yet even that is hardly long enough to do justice to the phenomenal growth of state action during those years.

The strength of the work lies in its remarkable coherence. The reader is provided with a useful summary-up at regular intervals, culminating in a wonderfully lucid presentation of the economic and social policy agenda as it had evolved by 1939. Such orderliness will make this a useful book for students. Moreover its very virtues help the reader to identify the gaps in the presentation. It is exactly because Scotland, Wales and Ireland are accorded separate treatment wherever this seems called for, that one notices to one's surprise that there is nothing on public policy in Ulster between 1922 and 1939 despite the importance of the subject and the excellent work that has been done on it. Again, whereas policy towards business and the trade unions is treated with care, one looks in vain for an exposition of the relation of the state with the professions. Perhaps the greatest weakness is due to the perfunctory attention paid to the instruments by which public policy was



This photograph shows "The Low House" in Rhode Island, designed in the 1870s by McKim, Mead & White. It was described by the eminent architectural writer Henry-Russell Hitchcock as "a masterpiece among American summer houses". A book of essays dedicated to Hitchcock, *In Search of Modern Architecture*, edited by Helen Searing, is published by MIT Press at £36.00.

actually carried out. The Treasury and major departments of state could have done with the sort of care devoted to the working of the banking system.

One suspects that such sacrifices were made for reasons of space. The result is a compact book of just over four hundred pages. The sooner it goes into paperback at a price that students can afford, the better.

E. P. Hennock

E. P. Hennock is professor of modern history at the University of Liverpool.

View from the top

Government and Urban Poverty: inside the policy-making process
by Joan Higgins, Nicholas Deakin, John Edwards and Malcolm Wicks
Blackwell, £15.00 and £5.95
ISBN 0 631 12937 5 and 13252 X

Urban policy in its interventionist guise began in Britain in 1968 and took on a new urgency with the Brixton and Toxteth riots of 1982. The fourteen-year period between these dates which is covered in this book is a story of extraordinary twists and turns, with each successive "experiment" conceived in apparent ignorance of the one before. A truly radical one, the ill-fated Community Development Project, advanced the unpaisable idea that poverty might have a good deal to do with the entrenched privileges of the rich, and was promptly wound up. But some of its message was retained in the idea that urban poverty was essentially an economic problem, although as the book points out, it turned out that it flowered as Thatcherism rather than socialism.

As the sub-title suggests, this is very much a top-down view of the problem: three of the four authors report here the experience they gained as social scientists on the government payroll. It is not surprising therefore that the bureaucracy is at the centre of the analysis, and that much more attention is paid to rumblings between departments than the stirrings among the poor themselves. At this level the book is very good indeed, and adds considerably to our knowledge of how the "inner city" problem was constructed and reconstructed within the bowels of the state.

Joan Higgins traces mainly familiar ground in her chapter on the CDP, but manages to add fresh detail by concentrating on the very early period when the enthusiasm of its creator, Derek Morris, was an important factor in getting the idea accepted. John Edwards' account of the urban problem draws heavily on earlier published research, but extends that with a description of how the partnership between the state and the private sector have created a hierarchy of authorities, each all too ready to change its colour to merge with the background. Malcolm Wicks reviews that acknowledged failure of urban policy, the Comprehensive Community Programme, which foundered on the rocks of departmentalism after Roy Jenkins as Home Secretary had decided to take the helm. The suspicion that the CDP was designed as

a swift managerial antidote to the venomous CDP is neither confirmed nor laid to rest. In the final empirical chapter Nicholas Deakin draws on his experience as head of the GLC Central Policy Unit to evaluate Peter Shore's tenure at the DoE by examining the often stormy partnership in Lambeth, and again unsurprisingly argues from a localist perspective that the heavy hand of the centre cramped the possibility of effective local initiatives.

As an insider's account of a critical period in the bureaucratic politics of urban policy, this book readily earns its place on the shelf alongside recent accounts by David Donnison and Frank Field. But its claim to provide "a test of different theories of policy-making" must be treated with some caution. The conclusion is that the dominant influence on policy is exerted by "administrators and administrative structures". While this certainly meshes with the data selected for study (it would indeed be surprising if an insider view found otherwise) it fails to offer a convincing explanation of the central feature of British urban policy which the study itself identifies. When the problems of these projects began in 1968 the problems of urban poverty were already well known; fourteen years and numerous initiatives later the problems were more serious than ever and exploded into violence.

It may well be that "initiatives" come from administrators, but for the obstacles to change and the process whereby urban poverty is reinforced through the reciprocal maintenance of wealth and privilege we must look beyond this study, and indeed beyond the poor themselves.

Alan Cawson

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Legal battles

Public Legal Services: a comparative study of policy, politics and practice
by Jeremy Cooper
Sweet and Maxwell, £9.50
ISBN 0 421 30350 6

A distinctive breed of community-based lawyers, working in local law centres, often with a politically radical outlook on the legal face of social problems, has in the last decade or so become part of the landscape of British legal services.

Not that such lawyers have been content to blend unobtrusively into their surroundings, and become part of a legal establishment that has grown fat on property conveyancing. That strategy would have been totally at odds with the intended goal of getting much-needed legal services to the parts that the Law Society, notwithstanding the provisions of the Legal Aid and Advice Acts, has so signally failed to reach. And the explicit radicalism of many law centres has often generated with local authorities and a substantial part of the funding of the centres, but tend sometimes to find themselves the unwilling victims of the lawyers' activities on behalf of the disadvantaged.

Gavin Drewry

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Patriotism and protest

Landlord and Tenant in Urban Britain 1838-1918
by David Englander
Clarendon Press: Oxford University Press, £22.50
ISBN 0 19 822680 2

To suggest that rent control was a prerequisite of Allied victory in the First World War is to court the charge of military and political historicism alike. And yet there is force in the argument that the preservation of working-class living standards was essential to the maintenance of morale among troops as it was to the expansion of war production. Without rent control, wartime gains in wages would have been wiped out in urban areas like Coventry and Sheffield where a substantial influx of labour took place during the war. Rent control was a price that had to be paid for social stability and uninterrupted production of war material, and, therefore, constituted a necessary condition of military success in the 1914-18 war.

How the Rent Restrictions Act of 1915 came about is, therefore, a question of some historical importance, and it is in this context that we should place the contribution of David Englander's new study of landlord-tenant strife. He has demonstrated the importance of popular agitation in the form of rent strikes as a crucial source of legislative reform. Credit for this essential part of wartime social policy must rest not with far-seeing Fabians or civil servants, but with tenants' associations which by 1914 had had a long experience in the tactics of "urban guerrilla warfare". Much of the early part of the book is devoted to documenting the history of these prewar imbroglios, the light of which the 1915 legislation appears not as a new departure but as the culmination of earlier struggles.

This study of tenant militancy vividly highlights the extent to which working-class groups sought successively to defend their interests as consumers during the First World War. Here we can see an excellent case of the perfect compatibility of patriotism and protest, for a population prepared for mass voluntary enlistment in the British Army was not prepared to tolerate war conditions to line their pockets and to do so at the expense of "war workers" or soldiers' families.

This is the source of the wartime campaign against "profiteering", a word which entered ordinary language during the war to fit what many saw as the anti-social behaviour of employers and landlords alike. But it was the simplicity of fixing rents at the August 1914 level which ensured that control over profiteering in housing was much more effective than in industry, where excess profit duties were not strictly enforced. This measure was more symbolic than substantive, but it also reflects the extent to which respect for popular sentiments about equality and sacrifice displaced a commitment to the market place its course during the war.

We are back once more, then, with an urban version of the "moral economy" of the English common law, but with a major difference, namely that war conditions nationalized the old tenant-landlord conflict and forced the state to act. Just as many trade unions achieved recognition as bargaining partners in industrial disputes more fully, might it not be significant, for example, that Lord Gardiner's tenure as Lord Chancellor was a particularly important period in the development of constructive thinking about law centres, and that the Royal Commission on Legal Services was set up by a Labour rather than a Conservative government?

This is the first fruit of a very promising collaborative venture between the Society of Public Teachers of Law and Sweet and Maxwell to publish a series of high scholarly merit for which the demand may be insufficient to justify publication on a normal commercial basis. At well below

J. M. Winter

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BOOKS

Fenland drainage

The Changing Fenland
by H. C. Darby
Cambridge University Press, £17.50
ISBN 0 521 24606 7

Wetlands make up 6 per cent of the world's land area and are now considered by many to be the most threatened of all landscape types. In Britain there has been considerable recent public debate over the use of such areas typified as fen and bog, marsh and swamp. For Sedge-moor the argument between conservation and agricultural development was poignantly expressed by the much photographed burning last year of hanging effigies of the conservationists.

The story of the drainage of one of Britain's formerly most expensive and intriguing wet lowland landscapes is lucidly documented by Professor Darby, carefully avoiding the entanglements of discussion surrounding habitat loss until the final few pages. However, the points are well made that the Fenland at the start of its draining owed its special vegetation and landscape character to economic exploitation by the local inhabitants and that examples of its original environment cannot survive without positive management.

Although some may feel that an opportunity has been missed in this updated version of *The Draining of the Fens* to expose more fully the consequences and impact of landscape and ecological change, I would not subscribe to such a view. The history that Darby has unearthed, sifted, interpreted and organized for the reader is as accurate a statement as is possible from sources of variable quality and content. It thus allows the reader to use the facts to derive his own impressions rather than have his mind made up for him at the start.

The middle five chapters which deal with drainage from the seventeenth century to 1900 are considerably rewritten and enhanced with additional material since their initial publication in 1940. In particular Darby provides much greater insight into Vermuyden's changing interpretation of Fenland drainage problems. Yet the account of lowering of the peat surface and its consequences for drainage efforts and the new debate of the landscape will remain one of the most valuable sections of the text, especially for anyone who would ever doubt the ability of human endeavour to change the physical landscape.

In many ways, however, the two new chapters are the most fascinating to the student of landscape history. Chapter one examines the Fenland from Roman times to the end of the fifteenth century. A clear contrast is drawn between the inhabited silt-lands and the uncultivated undrained peatlands. The contrast of villages, the nature of economic activities, the development of local wealth and its associated landscape manifestations are explained as the pattern of life and early process of land reclamation is described. We are given a most vivid picture of the early medieval landscape - an image enhanced by well selected aerial photographs which illustrate such features as former salterns, medieval turbaries and former channels crossing what is now rich farmland.

A final chapter analyses the events of the present century, particularly as influenced by the Drainage Act of 1930. It traces the effects of rapidly changing drainage technology from steam power through oil to electricity but also examines the controversies surrounding flood protection and modern agricultural changes associated with the present patterns of water control.

The text is superbly referenced throughout and the 638 sources quoted form an excellent bibliography. Copious use is made of explicit maps and figures but the value of some of the older black and white photographs is reduced by marked deficiencies in reproduction. However,

the greatest illustrative tool sensitive and perceptively used by Professor Darby is that of contemporary quotation. Two examples perhaps mischievously epitomize the landscape transformation described by the author. "Here is such a quantity of fish as to cause astonishment in strangers..." was noted by a chronicler in 1125, whereas in the nineteenth century it is stated that "the swamp or marsh, exhaling malaria, disease and death", had been converted into "fruitful cornfields and verdant pastures". This most scholarly text tells us exactly how this has been achieved.

Edward Maltby

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Historical sources

Historical Change in the Physical Environment: a guide to sources and techniques
by J. M. Hooke and R. J. P. Kain
Butterworth, £20.00
ISBN 0 408 10743 X

A remarkable demonstration of the practical application of historical geography in war-time is provided by J. D. Bernal's work, using seventeenth-century and eighteenth-century records to determine the physical characteristics of the beaches in Normandy where the allied forces were to make their D-day landings. Physical geographers accustomed to working in the field and in the laboratory can, in certain circumstances, advance their research by visits to record offices.

Certainly, Hooke and Kain contend that "evidence from the past has considerable potential for providing long-term perspectives for studies of current physical processes, for understanding the nature and causes of change and, above all, for understanding the magnitude of the impact of human activities on the physical environment". Their main purpose is to offer guidance in the use of historical sources in analyses of the physical environment; their book is intended primarily for physical geographers and other earth scientists with no formal training in the use of historical evidence.

A substantial review of graphical, literary and statistical sources relating to Britain is followed by an inevitably sketchier account of similar sources in

other countries and by a brief consideration of complementary, non-documentary, sources and of certain dating-techniques. The need to use historical sources critically and circumspectly is obvious but is rightly emphasized by Hooke and Kain in a chapter which - because of its emphasis on the limits of accuracy and of analysis - might no longer be as useful to some physical geographers than using such suspect data. Those who persist, however, will not be discouraged, for the merits of doing so are shown to outweigh the limitations in a series of case-studies dealing in turn with climatic, glacial, coastal, fluvial and vegetational changes.

From the value of historical sources to studies of morphological change, Hooke and Kain turn to the more complex problem of using such sources to examine both catastrophic physical events and long-term processes. Finally, they move into even more difficult territory, the explanation of environmental changes in recent history, concentrating on the impact of human activities (such as urbanization and land drainage) on the physical environment. The utility of what is intentionally a guidebook is enhanced by a 36-page bibliography and adequately served by brief subject and author indexes.

The ambitious scope of this pioneering book is undoubtedly laudable. Unfortunately, breadth is achieved by sacrificing depth. Each historical source assessed and each environmental problem discussed in this book requires more detailed consideration than Hooke and Kain are able to provide. They have, however, written an admirable introduction to the study of historical change in the physical environment.

The growth of subjects like historical ecology and historical climatology combined with the broad interest in recent environmental changes reflected in Hooke and Kain's book testify to the vitality of an historical approach within physical geography which has persisted despite the attempts, for example, of some systems geomorphologists to discredit it. Furthermore, such a historical perspective permits a lively dialogue between physical and human geographers, providing one means of countering some of the fustianous tendencies discernible within geography today.

Alan Baker

Alan Baker is lecturer in geography at the University of Cambridge and senior tutor of Emmanuel College.

Canadian provinces

Heartland and Hinterland: a geography of Canada
edited by L. D. McCann
Prentice-Hall, £19.15
ISBN 0 13 385 146 X

This handsomely produced and well-integrated collection of articles once again tells the story of the historical and regional geography of Canada. Its unifying theme is the concept of core and periphery, here termed heartland and hinterland. The production of natural resources forms the bases of regional economies in the hinterland but most secondary manufacturing industry and financial institutions are located in the southern Ontario and Quebec heartland.

An opening chapter by the editor introduces the ensuing regional framework and includes some basic facts about and maps of the physical environment. However, these and subsequent comments by the other 14 authors on the natural environments of Canada are minimal and basic, lacking the degree of sophistication which they display in their considerations of the economic, social, political and historical processes which have fashioned Canada. A core-periphery model is just as relevant (or irrelevant) to the physical geography of Canada as to its human geography. What the Shield is to the physical scene so are the St. Lawrence lowlands to the human one.

A heartland-hinterland model is geometrically circular or at least semi-circular and seems, at first glance,

ill-fitted to the predominantly longitudinal pattern of Canada's relief and geology and the tetradial island archipelago of settlements strung out east-west north of the United States border. However, in the hands of these authors and in the reality of the geography of Canada, it does seem to work. This is due to three major factors.

First, the St. Lawrence river enabled French settlers first to penetrate from the Atlantic and establish a core in lower Canada to be followed by the British in upper Canada - the two together becoming the heartland of the twentieth century. Second, the boundary with the United States to the south and the inhospitable of the Shield to the north thrust Canada westwards between the two in spite of distance, difficulties of terrain and winter climate and a relatively deficient resource base. Third, all this happened because technology came to the aid of the nascent nation: railroad, river, canal and seaway, airline and pipeline, telegraph, radio and television have provided the channels of communication which have made a nation out of the nine provincial islands and despite the fundamental dichotomy between the Quebecois and the rest.

Eric Brown

Eric Brown is professor of geography at University College London.

Later Prehistory by P. J. Fowler, a volume in Cambridge University Press's series "The Agrarian History of England and Wales", first published in 1961, has been re-issued in paperback as *The Farming of Prehistoric Britain*, price £7.50.

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Universities



Applications are invited for the post of Lecturer in Education in the School of Education, James Cook University of North Queensland, Townsville. The successful candidate will be responsible for the delivery of lectures and seminars in the field of education. The post is full-time and permanent. Salary will be in the range of £10,000 to £12,000 per annum. Applications should be sent to the Dean of the School of Education, James Cook University, Townsville, Queensland 4811, Australia.

Applications are invited for the post of Lecturer in Clinical Psychology in the Department of Psychology, University of Queensland. The successful candidate will be responsible for the delivery of lectures and seminars in the field of clinical psychology. The post is full-time and permanent. Salary will be in the range of £10,000 to £12,000 per annum. Applications should be sent to the Dean of the Department of Psychology, University of Queensland, St. Louis, Queensland 4072, Australia.

Applications are invited for the post of Lecturer in Economics in the School of Economics, The Flinders University of South Australia. The successful candidate will be responsible for the delivery of lectures and seminars in the field of economics. The post is full-time and permanent. Salary will be in the range of £10,000 to £12,000 per annum. Applications should be sent to the Dean of the School of Economics, The Flinders University of South Australia, Adelaide, South Australia 5001, Australia.

Applications are invited for the post of Lecturer in Law in the Law School, University of Melbourne. The successful candidate will be responsible for the delivery of lectures and seminars in the field of law. The post is full-time and permanent. Salary will be in the range of £10,000 to £12,000 per annum. Applications should be sent to the Dean of the Law School, University of Melbourne, Melbourne, Victoria 3010, Australia.

Applications are invited for the post of Lecturer in Modern European History in the Department of History, University of Hull. The successful candidate will be responsible for the delivery of lectures and seminars in the field of modern European history. The post is full-time and permanent. Salary will be in the range of £10,000 to £12,000 per annum. Applications should be sent to the Dean of the Department of History, University of Hull, Hull, East Yorkshire HU6 7UH, United Kingdom.

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Teacher Education
Colleges and
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THE UNIVERSITY OF ASTON IN BIRMINGHAM Computer Centre

Lectureships in Information Technology

The University Grants Committee has selected Aston as one of a number of Universities in which it will concentrate support for postgraduate courses in information technology. As a result, applications are invited for additional lectureships to commence as soon as possible. Appointments will be made for a fixed term of three years initially. Secondments from industry will be welcomed. The successful applicants will be required to undertake research and to contribute to the Centre's teaching programme. It is expected that there will be opportunity for interaction with an industry oriented Research Institute planning to include a centre of excellence in Fifth Generation technologies. Candidates should have a higher degree, preferably in Computer Science, and have special interests in one of the following areas:

- (a) software technology
- (b) databases and information retrieval
- (c) novel architectures or
- (d) logic programming.

Initial salary will be within and up to the maximum of the range £7,190 to £14,125 per annum.

Application forms and further particulars may be obtained from the Staff Office (quoting Ref: 583/198), University of Aston in Birmingham, Gosta Green, Birmingham B4 7ET. Tel: 021-359 3111 Ext. 4854. Closing date for the receipt of applications is 19th August 1983.

WELSH NATIONAL SCHOOL OF MEDICINE (University of Wales)

APPOINTMENT OF REGISTRAR AND SECRETARY

Applications are invited for the post of Registrar and Secretary of the Welsh National School of Medicine, an independent University Institution within the University of Wales. It is hoped that the successful applicant will take up the appointment on 1st July 1984.

Candidates should have had extensive experience of University administration and a degree or equivalent qualification; experience of the administrative processes of the National Health Service would be considered an asset. The salary will be within Grade IV of the salary scales for University administrative staff (range £17,275 per annum and upwards); the starting point will be determined according to the qualifications and experience of the successful candidate.

Applications in the form of a full curriculum vitae with the names and addresses of three referees should be received not later than 15th October, 1983 by The Provost, Welsh National School of Medicine, Heath Park, Cardiff CF4 4XN, from whom further particulars may be obtained.

Applications are invited for the post of Registrar and Secretary of the Welsh National School of Medicine, an independent University Institution within the University of Wales. It is hoped that the successful applicant will take up the appointment on 1st July 1984.

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Universities continued

UNIVERSITY OF EAST ANGLIA
Norwich

TEMPORARY LECTURESHIP IN SEDIMENTARY GEOCHEMISTRY

Applications are invited for this post in the School of Environmental Sciences. The successful candidate will be responsible for the delivery of lectures and seminars in the field of sedimentary geochemistry. The post is temporary and full-time. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the School of Environmental Sciences, University of East Anglia, Norwich NR4 7TJ. Tel: 0693 58181 Ext. 2120. Closing date for applications is 31st August 1983.

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

ENGINEERING RESEARCH ASSISTANTS

Applications are invited for the posts of two RESEARCH ASSISTANTS in the Department of Transport Technology. The successful candidates will be responsible for the delivery of lectures and seminars in the field of transport technology. The posts are full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Department of Transport Technology, Loughborough University of Technology, Loughborough, Leicestershire LE11 3TU. Tel: 0533 433111. Closing date for applications is 31st August 1983.

The University of Papua New Guinea
Department of Physics

SENIOR TECHNICAL OFFICER ELECTRONICS

Applications are invited for the post of Senior Technical Officer Electronics in the Department of Physics. The successful candidate will be responsible for the delivery of lectures and seminars in the field of electronics. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Department of Physics, University of Papua New Guinea, Port Moresby, Papua New Guinea. Tel: 675 3211. Closing date for applications is 31st August 1983.

The Papua New Guinea University of Technology
Department of Mathematics

LECTURERS IN MATHEMATICS (2 POSITIONS)

Applications are invited for the posts of two Lecturers in Mathematics in the Department of Mathematics. The successful candidates will be responsible for the delivery of lectures and seminars in the field of mathematics. The posts are full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Department of Mathematics, Papua New Guinea University of Technology, Port Moresby, Papua New Guinea. Tel: 675 3211. Closing date for applications is 31st August 1983.

The University of East Anglia
Norwich

LECTURESHIP IN MACHINERY VIBRATION

Applications are invited for this post in the School of Mechanical Engineering. The successful candidate will be responsible for the delivery of lectures and seminars in the field of machinery vibration. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the School of Mechanical Engineering, University of East Anglia, Norwich NR4 7TJ. Tel: 0693 58181 Ext. 2120. Closing date for applications is 31st August 1983.

Southampton University

LECTURESHIP IN MACHINERY VIBRATION

Applications are invited for this post in the School of Mechanical Engineering. The successful candidate will be responsible for the delivery of lectures and seminars in the field of machinery vibration. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the School of Mechanical Engineering, Southampton University, Southampton, Hampshire SO9 5NH. Tel: 0703 593111. Closing date for applications is 31st August 1983.

Southampton University

LECTURESHIP IN MACHINERY VIBRATION

Applications are invited for this post in the School of Mechanical Engineering. The successful candidate will be responsible for the delivery of lectures and seminars in the field of machinery vibration. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the School of Mechanical Engineering, Southampton University, Southampton, Hampshire SO9 5NH. Tel: 0703 593111. Closing date for applications is 31st August 1983.

University of Kent
Canterbury

TEMPORARY LECTURESHIP IN HISTORY & THEORY OF ART

Applications are invited for this post in the School of Environmental Sciences. The successful candidate will be responsible for the delivery of lectures and seminars in the field of history and theory of art. The post is temporary and full-time. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the School of Environmental Sciences, University of Kent, Canterbury, Kent CT2 7NF. Tel: 01843 333111. Closing date for applications is 31st August 1983.

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Canterbury

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The University of the South Pacific LECTURER IN EDUCATION

Applications are invited for the post of Lecturer in Education in the Faculty of Education. The successful candidate will be responsible for the delivery of lectures and seminars in the field of education. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Faculty of Education, The University of the South Pacific, Suva, Fiji. Tel: 677 2211. Closing date for applications is 31st August 1983.

University of the West Indies
Cave Hill Campus, Barbados

ASSISTANT LECTURER/LECTURER IN FRENCH

Applications are invited for the posts of Assistant Lecturer and Lecturer in French in the Faculty of Education. The successful candidates will be responsible for the delivery of lectures and seminars in the field of French. The posts are full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Faculty of Education, University of the West Indies, Cave Hill Campus, Barbados. Tel: 868 2211. Closing date for applications is 31st August 1983.

University of Surrey
Faculty of Engineering

LECTURER IN MECHANICAL ENGINEERING

Applications are invited for the post of Lecturer in Mechanical Engineering in the Faculty of Engineering. The successful candidate will be responsible for the delivery of lectures and seminars in the field of mechanical engineering. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Faculty of Engineering, University of Surrey, Guildford, Surrey GU1 2HU. Tel: 0432 333111. Closing date for applications is 31st August 1983.

University of Newcastle Upon Tyne
Senior Assistant Registrar

Applications are invited for the post of Senior Assistant Registrar in the Faculty of Education. The successful candidate will be responsible for the delivery of lectures and seminars in the field of education. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Faculty of Education, University of Newcastle Upon Tyne, Newcastle Upon Tyne NE1 7RU. Tel: 0191 275111. Closing date for applications is 31st August 1983.

University of Aberdeen
Department of Clinical Medicine

WELLCOME LECTURESHIP

Applications are invited for the Wellcome Lectureship in the Department of Clinical Medicine. The successful candidate will be responsible for the delivery of lectures and seminars in the field of clinical medicine. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Department of Clinical Medicine, University of Aberdeen, Aberdeen, Scotland AB9 8QY. Tel: 01224 261111. Closing date for applications is 31st August 1983.

University of Liverpool
Department of Manufacturing Engineering

RESEARCH ASSISTANT

Applications are invited for the post of Research Assistant in the Department of Manufacturing Engineering. The successful candidate will be responsible for the delivery of lectures and seminars in the field of manufacturing engineering. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Department of Manufacturing Engineering, University of Liverpool, Liverpool, Merseyside L69 3GB. Tel: 0151 275111. Closing date for applications is 31st August 1983.

The City University
Centre for Business Systems Analysis

LECTURER IN BUSINESS SYSTEMS ANALYSIS

Applications are invited for the post of Lecturer in Business Systems Analysis in the Centre for Business Systems Analysis. The successful candidate will be responsible for the delivery of lectures and seminars in the field of business systems analysis. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Centre for Business Systems Analysis, The City University, London EC1Y 8EN. Tel: 01753 333111. Closing date for applications is 31st August 1983.

University of Bradford
Management Centre

LECTURER IN MANAGEMENT SCIENCE

Applications are invited for the post of Lecturer in Management Science in the Management Centre. The successful candidate will be responsible for the delivery of lectures and seminars in the field of management science. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Management Centre, University of Bradford, Bradford, West Yorkshire WF6 1PT. Tel: 01274 333111. Closing date for applications is 31st August 1983.

National University of Lesotho
Professor of Chemistry

PROFESSOR OF CHEMISTRY

Applications are invited for the post of Professor of Chemistry in the National University of Lesotho. The successful candidate will be responsible for the delivery of lectures and seminars in the field of chemistry. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the National University of Lesotho, Maseru, South Africa. Tel: 027 2211. Closing date for applications is 31st August 1983.

University of Sheffield
Chairman of Landscape Architecture

CHAIRMAN OF LANDSCAPE ARCHITECTURE

Applications are invited for the post of Chairman of Landscape Architecture in the University of Sheffield. The successful candidate will be responsible for the delivery of lectures and seminars in the field of landscape architecture. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the University of Sheffield, Sheffield, South Yorkshire S10 2TN. Tel: 0114 275111. Closing date for applications is 31st August 1983.

University of Hull
Chair of Computer Studies

CHAIR OF COMPUTER STUDIES

Applications are invited for the post of Chair of Computer Studies in the University of Hull. The successful candidate will be responsible for the delivery of lectures and seminars in the field of computer studies. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the University of Hull, Hull, East Yorkshire HU6 7UH. Tel: 0482 333111. Closing date for applications is 31st August 1983.

University of London
King's College London

RESEARCH ASSOCIATE

Applications are invited for the post of Research Associate in the Faculty of Education. The successful candidate will be responsible for the delivery of lectures and seminars in the field of education. The post is full-time and permanent. Salary will be in the range of £7,190 to £14,125 per annum. Applications should be sent to the Dean of the Faculty of Education, King's College London, London WC2R 2LS. Tel: 0181 275111. Closing date for applications is 31st August 1983.

University of Hull
Chair of Computer Studies

CHAIR OF COMPUTER STUDIES

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Colleges of Further Education

**Kidderminster
College
Hereford & Worcester
County Council**
in association with

**DEPARTMENT OF
CARPET STUDIES,
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ASSOCIATE SENIOR**

**LECTURER
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TEXTILES**

Associate Senior Lecturer (approximately half-time) required for the BA (Hons) Course in the Design of Carpets and Related Textiles, operated in conjunction with The Polytechnic, West

Applicants should be academically well qualified and experienced in the teaching of

CADRETECHYLE

and have appropriate industrial experience to contribute to the teaching in this area.

Further details and form of application from:
The Principal, Kiddleminster College, How Road, Kiddleminster

Administration

**University of London
University Entrance
and School**

**Examinations Council
School Examinations
Department
TEST
DEVELOPMENT
OFFICER**

The School Examinations Department, which conducts the GCE examination for the University of London, wish to appoint a Test Development Officer for a fixed term of three years.

The person appointed will take administrative responsibility for the development of graded tests in English and Mathematics in the first instance and then develop further tests in other subjects. Applicants must have a good degree in Mathematics.

other Modern Languages
administrative experience
in committee work
teaching experience
knowledge of examination
structures and examination
methods in second
schools, some knowledge
of research techniques an

The initial salary according to one, qualifications and experience will be within the scale £11,160 to £14,125 plus £1,186 London Allowance six weeks holiday plus

Further particulars on application forms available from Miss J. S. Taylor, Assistant Personnel Officer, School Examinations Department, 68-7 Colver Street, London.

WCLE 688, Telephone 01
256 2000 ext 4034. Com
pleted application form
should be returned no la
ter than 26 August. 111

**The Medical College
of St. Bartholomew's
Hospital
STATISTICAL
PROGRAMMER**

A statistical programmer is required to collaborate and provide a Consultancy Service to College Departments involved in research work. Applicants should have experience in working with standard

the ability to write programs in both Fortran and Basic. A sound knowledge of the techniques used in Medical Statistics (Survival analysis, Non-Parametric statistics, etc) is essential.

The majority of work will be carried out on the local PDP 11/44 and PDP 11/23 but some work involving large data bases can be tackled via the University network.

Applicants should send their C.V. to The Secretary of the Medical College, West Smithfield, London, EC1A 7BS.

Don's diary

Sunday

One advantage of study-leave abroad is no lawn to mow, no garden to weed; so we left the spring sunshine call us out and walk 10km from Uppsala to Lake Malaren, on a marked path through woods loud with birdsong, to lakeside fields covered in spring flowers. In Sweden you can walk where you like within reason, but without the marked path we would soon get lost in forest in which we meet no one until the last three kilometres, when we enter a large recreation area with a network of paths. This is full of people, especially along the lake, but we see virtually no litter or vandalism. On the bus back, crowded with teenagers, people compete to offer their seats to an oldish woman. We speculate on how the Swedes have avoided so much of the less attractive features of teenage culture.

Monday

At breakfast I enjoy the view of sunshine on the castle and university library nearby. Then walk down by the cathedral. In Uppsala, as in Colchester, many old buildings were torn down to make way for dull modern ones before the conservation movement came to the rescue of what was left. I linger, each day, as I pass a house being restored, to see what fresh architectural detail the work of reconstruction has revealed.

On to the department to start preparing tomorrow's seminar on some of my research. But first put a new plastic ribbon into the typewriter. An electric typewriter seems to be provided for everyone working in a university or government department here. It must increase productivity and reduce the need for secretaries.

At one, the staff go into a departmental meeting, reappearing less than an hour later, together with the remains of some large cakes. Perhaps giving everyone soft cream cake is the way to get through a meeting quickly.

Tuesday

How does one tell if one's own seminar has gone well? I know I again tried to cover too much. But they all stayed awake - well, almost all, and he only nodded off in the last five minutes, and it was the end of a long day. The lively questions and discussion they had understood what I had said and were interested. Their English is so good one tends to forget it is not their native tongue. One expressed astonishment that Britain, where we start teaching research in the schools, should have low completion rates in the PhD. Realize afterwards that he has put his finger on an important point. The process of inculcating a belief that research is both the most enjoyable and the most worthwhile activity starts in the schools and if it were not so widely absorbed fewer people lacking a vocation for research would try to gain PhDs.

There being no pubs in Sweden, we just disperse after the seminar. Feel too tired to go to my Swedish class this evening, so we walk in the nearby botanical gardens and note how much has come into bloom in the last few days. When spring comes here it comes with a rush.

Wednesday

Discuss my research with a graduate student who is studying Swedish research students. Sweden has all our problems - increasing time spent on the doctorate, low completion rates etc. - only worse. Though the number, gathering as research students has diminished dramatically, the number of time spent on the doctorate has increased. The average time spent on the doctorate is now 18 months, compared to 12 months in the late 1960s. Back to the library to prepare for a seminar on research funding, which the

National Board for Universities and Colleges has asked me to write. The library's collection is founded on books looted from Europe during the Thirty Years War.

As friends are coming to dinner, go to the state alcohol monopoly in search of a bottle of drinkable sherry that will not break the bank. In a shop decorated with children's anti-alcoholism posters I am given a glass of alcohol-free hock - quite unlike anything I have ever tasted before. Taste the sherry when I get it home, and wonder if the flavour of what they sell is part of the anti-alcoholism campaign.

Thursday

Into Stockholm for more discussions with the young and enthusiastic staff of the forecasting institute within the Central Statistical Office. They are doing wide-ranging research on population trends and flows within the educational system and the labour force to provide the factual basis for the formation of social and educational policy. Talk about differences between their planned and our apparently unplanned higher education systems. Many similarities - for example in the calculation of the demand for school-teachers.

I am coming to the view that governments' intended goals are more important than the machinery. The excellent Swedish reforms which opened the universities to a far wider range of students could take place easily in Britain, given the will and the resources. On the other hand, the Swedish degree of central control would be dangerous in Britain, where top people have so often mistaken their prejudices for the facts.

In the evening, go to Swedish class attended mainly by visiting researchers from all over Europe and the United States. An attempt to teach us the higher numbers leads to discussion of where a billion is 10^9 and where 10^6 , from which the teacher drops out.

Friday

Take afternoon coffee (well - I drink tea) with a member of the department who tells me about his proposed research on the in-service training of teachers. For greater flexibility, the decision on which school-teachers will go to which courses has recently been devolved from Stockholm to local communities. Apparently the result is that some university courses are seriously undersubscribed. My friend agrees that it could be good for the universities to pay more attention to what the school-teachers want, but fears they will choose courses that are attractive but academically weak, not giving an adequate grounding in theory. He thinks some form of compromise will have to be achieved.

After work, we drive 40 miles down a motorway that is nearly empty. By British standards, to Scottish dancing in Stockholm. Membership of the Royal Scottish Country Dance Society gives one an introduction to friendly people wherever one goes. All but us are Swedes, young and keen, and working hard at polishing their technique. We are learning to understand instructions in an odd mixture of Swedish and English. Halfway through the evening, everyone ritually dips Earl Grey tea and eats biscuits spread with English marmalade.

When we drive back north between 11 and midnight, the sky ahead is so bright with a sunset that will soon turn into dawn that I can keep my headlights dipped.

Saturday

Friends take us to their cottage for the weekend, where, with enjoyment, we help them weed and mow the lawn.

Ernest Rudd

The author is reader in higher education studies in Essex University.

During the last few weeks thousands of young people have been handing in their textbooks and cleaning out their desks and lockers for the last time. In my day they would have been selling their satchels and throwing out their shoe bags too - incidentally whatever happened to shoe bags? The last chores of their school lives completed they are entering an adult world, but which to many of them is little more than the gloomy prospect of the dole queue.

The most fortunate among them will be going into higher education. A growing proportion of this group, however, will be delaying their start by "taking a year off" as it is euphemistically described. So like their less privileged peers they will be down at the Job Centre looking at the vacancies, scanning the newspaper advertisements and ringing up the local authorities hoping that meals on wheels is being expanded or that a play leader has dropped out.

I have argued in this column before that there is a strong case for young people getting off the educational escalator for a while and taking jobs, which will give them a different kind of experience and allow them the chance of becoming more mature before going to university.

Today the "year off" will give them the additional experience of searching for a job, being turned down, having to try again, and queuing up at the local office of the Department of Health and Social Security to claim supplementary benefit. However unpleasant, this is also valuable for it exposes these young people to some of the traumas of trying to find work that other young people, without higher education to look forward to, have to go through. The only argument against encouraging all prospective students from a break between school and university is that they may sometimes be competing for the same jobs as other school-leavers.

Perhaps the higher education system ought to be doing more to provide opportunities for some of the young people whose own students may be displaced. Neither the universities nor the polytechnics and colleges have been in the forefront of organizations taking on participants in the Youth Opportunities Programme and providing them

Integrating with mixed feelings

Hastened by the Sex Discrimination Act, the co-residence revolution in the colleges has rapidly provided the opportunity for many more women to come to Oxford. Its effects are not, however, proving wholly beneficial.

In so far as the number of student places for women is approaching twice that of 10 years ago, things are going well and fellows of those colleges which were formerly for men seem generally pleased at what they have done. However, if the three remaining colleges which at present admit only women students, and the one which is still for men only, were also to go "mixed", there would be some 500 fewer places for women in the whole university than at present (about 4,000).

This calculation is based on the present ratios of men to women at the mixed colleges which were formerly for men and at those that were formerly for women. These suggest that men would soon fill right up to the places in the three women's colleges, but women less than half in the one college which is at present for men.

However, much satisfaction there may be at what has been done for women students, the prospects for academic careers for women do not look nearly so good. The three women's colleges which have opened their governing bodies to men are seeing women being steadily replaced by men as fellows. After changing their statutes they had, up to October 1982, elected some 32 men and 10 women to fellowships, other than those which appear to be temporary or short-term ones for research. During the same period, some 18 women had obtained fellowships in the 22 mixed undergraduate colleges which were formerly for men.

On the face of it, Cambridge might appear to have done rather better for female dons: about 40 having been elected fellows of 16 mixed, formerly male, undergraduate colleges and up

Universities failing to support YTS



Tessa Blackstone

with work experience and training either on the job or releasing them to attend local further education colleges. The introduction of the Youth Training Scheme provides them with a chance to make up for past neglect. One reason for this neglect may be that higher education has gone along with the condescending and ultra critical view of any enterprise for which the Manpower Services Commission is responsible that has pervaded the educational world.

No one doubts that there have been some appalling failures under the YOP, and that there is a risk of similar failures under the Youth Training Scheme. However, it should not be forgotten that when the YOP was first introduced five years ago there were 76,000 unemployed school-leavers. This year it will be around a quarter of a million or more. Thus while at its onset the YOP was catering for a minority of school-leavers, approximately one in eight of the total, by 1981/82 it was catering for one in two of them. It has been a spectacular

success in terms of sheer numbers meeting its annual commitments of unemployed young people. No educational service has grown so.

When the YOP was set up it was clearly defined as a special programme which would only operate where the normal mechanisms of the labour market were failing. Which it did not anticipate was that the normal labour market for young people would collapse so dramatically. This was the YOP "grindstone" were the find jobs at the end of the programme by last year the proportion had fallen less than 20 per cent. Thus it is that the experience would improve the chances of the young unemployed finding a job became harder to sustain. However, the fact that because additional jobs were generated by the programme is merely cosmetic, is unfair. It is claimed it would produce extra jobs.

Because it became harder to secure permanent work for young people involved, the YOP has become increasingly concerned with its culminating in its replacement, the Youth Training Scheme. The YTS has even been criticized by people in the educational world for making this transition. There are rumblings that the state is involved in an insidious manipulation of young people to make them fit into existing labour market processes.

Those making such claims fail to realize that in the past many of these people would have had little opportunity to learn anything in dead-end jobs which were certainly not motivating their needs. Moreover, what YOP has done is to push the YTS continue to do is to push the YTS education and training, not just respond to the labour market, but respond to the young people themselves, many of whom are more or less at work-related education.

The higher education system is a large employer. It now has a special opportunity to demonstrate its worth on YTS trainees that as an employer has a social conscience. It also has an opportunity to demonstrate that parts of the education system recognize the MSC's contribution. It should be those opportunities.

Of offering protection to the remaining single-sex colleges from the present competition which they now face in the mixed ones. Linked with this choice is the increasing threat to women faces from men in competition for fellowships at any college that goes mixed.

The reasons for this apparent "competitiveness" of women candidates are not hard to discover. In all colleges at an age at which most appointments are made, women are at a disadvantage. This disadvantage does not lie in their basic attainment (class of degree, PhD etc) but in the output of academic work (publications, articles, books, attendance at conferences etc.) which is of major importance in assessing candidates for appointments.

It is clear that the chief reason for the smaller output is domestic life (housekeeping, child-rearing, looking after elderly relatives etc.) which is smaller output, so long as it is not taken into account in assessing candidates for appointments.

In competition with men, however, it is difficult to see any way in which it could be taken into account except by maintaining and protecting some of the single-sex institutions, where women compete only against women for appointments. Otherwise, women's colleges are liable to lose valuable joint college and university appointments, especially in the sciences. It is unfortunate that this should be happening at a time when reports from the schools indicate a marked trend among able girls away from arts to science.

What is happening now to women's dons in Oxford seems a very poor reward indeed for the hard 10-year struggle which they and their predecessors have had to improve the academic position. It is ironic that the source of their present disadvantage should be an Act of Parliament designed to help women.

John Potter
Hilda Brown

The authors are fellows, respectively of Wadham and St Hilda's colleges, Oxford.

LETTERS TO THE EDITOR

Arguments against a Scottish education 'overlord'

Sir, - I was interested to read in *The Times* (July 15 "Scots principals forge links with industry") that Sir Alwyn Williams, principal of Glasgow University is quoted as saying that "Glasgow welcomed the proposal from the Scottish Council for Tertiary Education of a single central body overseeing Scottish further and higher education outside the universities". I have emphasized the last three words, because there is indeed a logical case for a single central body overseeing further and higher education in Scotland, but not if it excludes the universities. Sir Alwyn is, in effect saying that he welcomes such a body providing it doesn't affect him.

Four of the main arguments against the proposal by the Scottish Council for Tertiary Education are: 1. that it would, for the central institution at least, be an unnecessarily cumbersome replacement for the existing relationships between the colleges and the Scottish Education Department, which despite their faults (including some major hiccups, eg Paisley College's social studies course) generally work relatively well.

Wisconsin pldign

Sir, - In his article "Creole is Stanford's pldign" (*THES*, July 15), E. Patrick McQuaid gives the impression that *The Carrier Pidgeon*, the international newsletter of pldign and creole studies, is a creation of Stanford University. While the world of creolists is grateful to the Stanford team for taking over CP shortly before the death a year ago of its previous editor and doyen of modern creolists, John Reinecke, and so continuing his invaluable work, it should perhaps be pointed out that CP is 10 years old this year. It was the brainchild of a team from the University of Wisconsin, who published it for its first three years.

Creole studies are alive and well in this country too: an international conference on creole languages (including a workshop on British Black English) will take place at the University of York from September 24 to 27 this year. Further details may be obtained from the local organizer, Mark Sebba, Department of Language, University of York, Heslington, York YO1 5DD. Yours faithfully, GERTRUDE AUB-BUSCHER, Language Teaching Centre, University of Hull.

Cost effectiveness

Sir, - On July 12 I wrote to Education Secretary, Sir Keith Joseph, indicating the National Association of Teachers in Further and Higher Education's immense concern about Government policy towards public sector higher education (ie higher education in polytechnics and similar colleges). The public sector provides higher education more cheaply than universities, according to a Department of Education and Science paper presented to the Board of the National Advisory Body for Local Authority Higher Education this week.

If the polytechnics and other colleges are to continue to meet the student demand upon them for higher education places, then the Government must make adequate resources available to this sector.

The Government is in favour of cost effectiveness. The public sector is cost effective and must be supported.

Yours faithfully, CECIL ROBINSON, President, National Association of Teachers in Further and Higher Education.

African advice

Sir, - I find it difficult to believe that Mr M. A. Higgins had the temerity to visit Uganda to give the university advice when, in his own words, "I have no African experience and vain attempts to get up-to-date information on the country leave me not sure what to expect".

Such advice as he appears to have offered on the basis of the few brief hours he appears to have given to the task he undertook is a measure of ignorance and ignorance the Third World can well do without.

Yours faithfully, J. LEWIS, Vice-Chancellor, The Papua New Guinea University of Technology.

2. that the replacement of direct relationships between central institutions and the SED by an intermediary body would provide the Minister of State for Education in Scotland with a shield behind which he could shelter if further cuts are implemented. In other words the minister could appear to place the responsibility for the cuts with the new central body, which would have to make the awkward decisions about where they should fall. This would be much the same way that Sir Keith Joseph was able to shield behind the University Grants Committee over the 1981 cuts in the university sector; 3. that for all its logic in theory, a central planning and budgeting body in practice would (a) absorb much time on the part of college senior administrative staff, and (b) slow down the process of academic development by reducing the ability of colleges to take initiatives and be innovative; 4. that the universities in Scotland would not be included within the "overseeing" role of this new body. As Vice Principal, the universities would still be free to devise new courses and make their own initiatives on an individual basis, while their main "competitors", the central institutions would have to participate in laborious centralized planning and budgeting procedures which would not only stifle initiative, but would also be likely to ensure that any rationalization affected the colleges far more than the universities.

I accept that what I am saying expresses a rather cynical view of the reasoning behind Sir Alwyn Williams' remark. I trust that in fact he was intending to be more positive. Nevertheless, it does, I think indicate that the anxiously awaited, and imminent, announcement of the Scottish Office's response to the Council for Tertiary Education's report, will in fact be something of a nonsense if, as will probably be the case, a central overseeing body is established (ie a MacNAB) but the universities are excluded.

Yours faithfully, DR CHRISTOPHER CARTER, Vice Principal, Duncan of Jordanstone College of Art, Dundee.

PhD dissatisfaction

Sir, - Colin Hendrie (*THES*, June 24) appeals this voice to the postgraduate community and the current dissatisfaction with the PhD by pointing out that what lay at the end of his successfully completed course, as for so many others, was unemployment.

We have, simultaneously, a huge wastage rate among PhD students - as high as 60 per cent among humanities students - a growing number of rejects who want to know why they have failed and an increasing number of PhD holders who, as *The THES* editorial remarked (June 8) "have been lured into an occupational dead-end".

All three states of affairs add up to, and is evidence of, a serious erosion of excellence, wastage, and poor morale at postgraduate level.

Such a condition is not the sole responsibility of the university. But it must be its contribution to the solution of these serious problems resolve to put its house in order, first by the adoption of a more self-critical attitude, and secondly by taking action to remedy abuses.

Until the university has the courage

Natthe monopoly

Sir, - I refer to your article "APT fails to gain recognition" (*THES* July 15). I am the acting secretary for another newly formed local association of the Association of Polytechnic Teachers in South West London College. As with Garnet College, our membership includes those who have found "the increasing politicization of the National Association of Teachers in Further and Higher Education objectionable".

Three of us are ex-Natthe officers. One member is a head of department. We anticipate a considerable increase in membership in September from newly appointed staff, non-unionized staff, ex-Association of Teachers in Technical Institutions members who did not continue membership when merged with Natthe, academic related staff and those of us who have become increasingly angry at the continuing

failure of Natthe to represent adequately our most urgent practical professional needs.

By refusing recognition of APT local associations, the Inner London Education Authority maintain a monopoly position Natthe or nothing. This clearly attempts to deny the right of ILEA staff to join a relevant representative organization for the purposes of trade union membership.

Does the ILEA imagine that this attempt to disenfranchise a substantial number of their staff will go unchecked when the right to join a relevant representative body is part of our ILEA conditions of service?

Yours faithfully, PAULINE STRACHAN-TIMMS, Acting secretary, APT local association.

Yours faithfully, DR MARTIN FORD, Chairman, Scouting and Schools Working Group.

RIBA defended over numbers

Sir, - Further to your item (*THES* June 17) reporting a potential row over the future of architectural education and in particular with regard to student numbers, I should like to point out that *The Times* published an analysis of "How many graduates do we need?" in September 1981 which came to the conclusion that we were then overproducing architects such that by 1984 the overproduction would be 700 per year. It therefore seems somewhat unreasonable to attack the Royal Institute of British Architects for alluding to the question of student numbers and few suggesting that the numbers of entrants to schools of architecture might be cut.

The RIBA estimate of overproduction of architects seems to be more modest than that of *The Times*, being in the range of 350 to 500 too many per annum. Since the question of the global number of students in tertiary education is on the national agenda, it seems totally unreal of the schools of architecture to protest about these matters being discussed by the RIBA and the National Advisory Body/University Grants Committee working group on architecture.

The real reason for the outburst from the schools of architecture following the Leicester conference is that the penny has dropped that the schools have no representation in the higher councils which will settle policy, and the RIBA has, insofar as it is the source of all statistical etc. data on the schools, and also of qualitative assessment of schools.

Quite unexpectedly, the NAB exercise has presented the RIBA with a mechanism to intervene at a policy level to determine the future of architectural education. Also, it is clear that architectural education is to be looked at strictly in terms of vocational/professional education/training and not primarily as education in the pure sense.

Examination of the curricula of schools of architecture reveals two trends familiar to readers of *THES*: (a) increasing specialization, and (b) disintegration of the undergraduate curriculum (under American influence).

The American trend to disintegration of the undergraduate syllabus - with a plethora of elective/optional subjects and no common core course - has come about through abdication from defining what exactly an architect needs to know in pre-set-day circumstances. The absence of the disciplines of relevance has led to architecture syllabi proliferating into subject areas which (if desirable) would be better taught by other departments.

Yours truly, F. J. STEVENS, 11 Rostrevor Road, London SW6.

New title
Sir, - It was reported (*THES* July 22) that the National Institute of Adult Education had changed its name to National Institute of Adult and Continuing Education. In fact, as the press release indicated, the conjunction is not present in the new title.

Furthermore it was hardly accurate to assume that the institute is engaged in a "bid" to take over from Advisory Council on Adult and Continuing Education. NIAE - and now NIACE - has consistently supported the notion of a national development council for adult continuing education, and strongly lobbied for that in the 1970s. When, in 1977, the offer turned out to be a national "advisory" council, the institute, although disappointed, agreed to support this initiative and has done so since in every way possible.

The institute's concern, then and now, is for the furtherance and development of continuing education for adults rather than in some power-games struggle with college organizations for specific reasons.

It is hoped and intended by the institute's new council that a significant role can be played in any further developments by NIACE. In that enterprise the institute wishes to work harmoniously with all relevant organizations and interested parties.

Yours truly, ARTHUR STOCK, Director, National Institute of Adult Continuing Education.

Union View

To be or not to be a union

My colleagues in the United States and Australia (Irvine Spitzberg and Les Wallis) have both described in recent international *Union View* columns the dilemma faced by university teacher associations in reconciling their professional activities with their trade union role.

The Association of University Teachers of New Zealand has statutory recognition by Government and the University Grants Committee in the area of salary negotiations (although the nature of the salary negotiating mechanism and the lack of any appeal against the final outcome remain matters of concern). Apart from the fact that the minister of education is prepared to discuss from time to time some of the matters which fall within the association's sphere of operation, there is little or no recognition of the association's proper right to represent its members in areas relating to conditions of employment.

There are a number of options open to the association to improve this unsatisfactory state of affairs. For example, we could register as a trade union under the provisions of the Industrial Relations Act which would place us in a similar position to the British AUT or to that which FAUSA in Australia is currently seeking now that education has been ruled an "industry", legally speaking. Equally, we could register as a state service organization under similar legislation for the public sector. A third option which has been discussed with members of the Government Caucus Committee on Education (and which was sympathetically received) involves amending each of the university acts to gain statutory recognition of the association as the organization representing the interests of academic staff.

AUTNZ

To those of us who have been at the centre of the discussions with the vice chancellors' committee, chairman of the University Grants Committee, minister of education and other politicians in recent years the above options are perhaps unnecessarily strong. They also introduce some other concerns not the least of which is the conflict between AUTNZ as a professional association and as a trade union.

Equally importantly, the members of the association's national executive have confirmed their commitment to the principle of university autonomy. For these reasons the association is currently engaged in a campaign to achieve its objective of the right to represent its members in areas relating to conditions of employment by seeking local recognition of branches of the association by individual university councils.

The decision to seek formal recognition by individual university councils has been given added impetus by the decision of the government in February to pass an Order-in-Council at the request of the university councils which declared all non-academic staff to be "part of the state services" for the purposes of fixing salaries and conditions of employment. Therefore, by seeking recognition by councils of the local branch of the association as the sole agent in respect of the conditions of service of academic staff, we are merely seeking that which all other university staff now have as of right. It has become clear that our position in terms of our right to represent the legitimate interests of our members is some years behind that of our counterparts. However, the road down which we have now embarked will lead us to a solution which should prove satisfactory to both ourselves and universities.

Rob Crozier

The author is executive secretary of the Association of University Teachers of New Zealand.

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The Scottish experience

Twenty years ago in the arrogant high noon of post-war university expansion the Scottish universities with their stubbornly distinctive traditions seemed a quaint anachronism. The outward form of that distinction, the four-year honours degree, certainly appeared to be worth preserving. But the values which this form represented, a more general form of higher education available to a broader section of the population and at a younger age, seemed obsolete. The common expectation was that the Scottish universities would conform more and more closely to the English model.

Today we are not so sure that the Scottish university tradition can be dismissed so unthinkingly as a marginal anachronism. The growing elaboration of academic knowledge has led to both regret that the practice of general education has become even more attenuated than it was at the time of the Robbins report when it was already causing widespread concern and a demand that first degree courses need to be lengthened to incorporate this new knowledge. So the interest in more general courses, perhaps lasting for two years, has increased; both the National Advisory Body in its more futuristic thoughts and the recent Leverhulme inquiry have endorsed this interest.

At the same time the maybe contradictory interest in longer degree courses has been reflected in the gradual development of, for example, four-year engineering courses. The attempts to reorder postgraduate courses are perhaps a more distant echo of the same concern. The Scottish experience seems much more relevant than it did 20 years ago.

This new relevance is intensified by three further factors. First is the desire to widen access to higher education which is such a strong theme in the

Leverhulme final report. The puzzle remains: what is the magic formula that will burst open the gates of higher education? The second is the gloomy obverse of the first. Although the present cuts are a more immediate worry, the implications of long-term demographic decline for student demand cannot be ignored. This makes it more urgent for universities to appeal to new constituencies. The third factor is an amalgam of the first two. It is the now almost conventional conviction that universities must become more involved in continuing education.

The relevance of the Scottish universities to such goals is, as Robert Anderson reminds us (page 11), that they are the heirs to a tradition that is markedly more flexible and populist than that inherited by the English universities.

Of course, it would be naive to suggest that British higher education can solve its problems by following the example of Scotland. Again as Robert Anderson points out, the same pressures that produced the specialized honours degrees in England were also at work in Scotland. Up to the time of Robbins the English and Scottish systems were clearly on a convergent course. More and more Scottish students came to university after two years in a sixth form or equivalent and the ordinary degree was more and more swallowed up by the honours degree, divided into a shallow collection of semi-specialized courses.

Since the 1960s, however, there has been a sharp reversal of this trend especially in the west of Scotland. Edinburgh, St Andrews and Aberdeen, most arguably Dundee, Heriot-Watt and Stirling, have kept to the English pattern. But Glasgow and Strathclyde have tended to revert to a more peculiarly Scottish pattern. The age of their students at entry has

declined and general degrees have held their own. The reason may be the growing difficulty that west of Scotland secondary schools have experienced in maintaining sixth forms, especially for a second year. But the effect seems to have been to increase access to higher education in Strathclyde.

What has been happening in the west of Scotland may appear to be a reversion to Scottish tradition. But it may also be the first dim outline of a pattern of higher education that could become more general throughout Britain. The decline of the traditional sixth form, the development of tertiary colleges, and the dynamism of the Manpower Services Commission, will radically change the geography of upper secondary education. Adding a year at the beginning rather than at the end of degree courses could stimulate access, reduce the overload of knowledge, invigorate the practice of general education - and be realistic within the context of scarce resources. On the other hand lowering the normal age of entry to higher education might undermine its role as a socializing and maturing process and perhaps make it a less congenial environment for mature students so inhibiting the growth of continuing education.

For higher education to adopt the "Strathclyde" strategy wholesale would, of course, lead to cries of protest from both the schools and further education. It might be interpreted as a cynical grab for resources. Perhaps for that reason it can be dismissed as unrealistic. Yet why should the demarcation between higher and further education be fixed for ever at the age of 18? The historical example of Scotland and perhaps the present example of Strathclyde suggest that it is possible to organize an excellent university system on the basis of a quite different relationship with the schools and further education.

A missed opportunity

It is scarcely overdramatizing matters to say that Scotland has missed the opportunity of a lifetime. The Scottish Council for Tertiary Education has reviewed the structure and management of the tertiary sector, the Government has announced its decision on the future shape of further education and it is fair to assume it will be well into next century before a similar review is undertaken.

One reaction to the Scottish Office plans is that they leave the present system virtually unchanged, but that is oversimplistic. The Scottish Education Department has without doubt tightened its grip on both funding and control of tertiary education. It is to take over the biggest and the best of the local authority colleges while giving Lothian Region one of the smallest central institutions.

These transfers were recommended by the tertiary council's majority report, but it further recommended funding through an independent central

body. It was naive to expect any minister to give up control of spending, particularly a minister in a government trying to limit expenditure.

Until now, cash limiting advanced further education would have meant a heavy-handed approach with the regions by the Secretary of State for Scotland: now he will take over control of college management and intake.

Napier, Bell and Glasgow colleges of technology are apparently delighted by the prospect of transfer, but they would do well to remember that if they have prospered and reached national status, it has been under local authority control. They also have the recent example of Government interference with social sciences at Paisley College, not to mention the sacking of two colleges of education, to prove that central management does not increase autonomy.

But the worst effect of the Scottish Secretary's decision will be to create a

firm distinction between advanced further education and non-advanced further education, at a time when there is concern to overcome the present barriers.

There were many people who agreed with the philosophy of the minority report, but instead of seizing the opportunity to improve the Scottish education system, they gave it only lukewarm support, straitjacketed by the belief that funding through the regions would be too complicated a process compared with central control.

The majority report's argument was that dramatic change was unnecessary since the present system worked well enough. If that is so, there seems nothing apart from an elitist philosophy to justify transferring successful advanced courses from the regional authority, so that now all Scottish higher education will be centrally run through either the Scottish Education Department or the University Grants Committee.

Earmarking research

When the present chairman of the Advisory Board for the Research Councils, Sir David Phillips, and the future chairman of the University Grants Committee, Sir Peter Swinerton-Dyer, both sign a report that calls for the earmarking of a research component within the university grant (page 3), then it seems fair to say that the idea has well and truly arrived.

Of course, the report of an ABRC working party on the subject given by research councils for funding and university research, cautiously underlines that the ABRC and the UGC should undertake the examination of the consequences of the implementation of such a policy. Such an examination is important and urgent. It is time that

the proposal to divide the UGC grant into teaching and research components was removed from the rhetorical plane and subjected to some severely practical tests. It may be a good idea but it is a workable one?

From the point of view of research earmarking seems to be the only way to shore up the crumbling dual support system. There is probably no alternative but to make dual support more explicit. The old informally simply will not work with a much larger university system and one that has come under considerable financial strain. More severely it is clearly nonsense to suggest that research resources should be randomly allocated among the universities. Some of the point of view of the

universities the benefits of earmarking seem much more ambiguous: humanities scholarship and small-scale social science research might get squeezed; the links between teaching and research would be loosened; the UGC would have to become even more imperialist and bureaucratic; and the size of the teaching component would be subject to the reductionism of unit costs. More specifically very difficult problems of demarcation would arise. So the ABRC and the UGC should go ahead with their examination so that these difficulties can be unpicked and the benefits more accurately described. At any rate the debate about earmarking for research can proceed from the first rhetorical to the second practical stage.

Laurie Taylor



Darling?

Yes, sweetie-pie.

Darling, what's this doing in the large suitcase?

What's that, my angel?

This book folded up in the lilac bath towel.

What book's that, darling?

Really, darling. There's only one book folded up in the lilac bath towel.

Ah. That one.

Yes indeed. *Praxis and Democratic Socialism*. No less.

'Ah... yes... that one.

Well?

Well, what?

Well, I thought we'd quite clearly agreed - quite positively and definitely agreed - that we were having a proper holiday - and that there was going to be absolutely no slipping in bits of work.

It's not actually work, darling. It's... well... you know... holiday reading.

Holiday reading! *Praxis and Democratic Socialism*?

Yes... sort of... holiday reading. In that case, I'm taking my sort of holiday reading.

Not that great big red one?

And what exactly's wrong with *The Political Economy of West African Agriculture*?

You couldn't possibly call that holiday reading.

Oh yes, I could. And what's more, it's a good half pound lighter than *Praxis and Democratic Socialism*. In fact, now I think of it, I've a good mind to pop in *Ecology and Exchange in the Andes* to make up my share of the weight.

If you do that - if you do that - it's the last straw. It really is.

What will you do?

I shall jolly well go and stick my *Analysis of Feudalism in Capitalist Society* right back in the large rucksack.

Oh will you? Two can play at that game. In goes *Caste, Ideology and Interaction*. Can't think why I left it out in the first place.

Right. In goes my pile of second year assessment essays.

And in goes my thirteen postgraduate dissertations.

Is that your final word?

Yes. Is it yours?

Right then. But I warn you.

What now?

I warn you... next year you can jolly well find someone else to go with you for a weekend in Paris.

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Engineers call for degrees rethink

by Jon Turney
Science Correspondent

The Engineering Council this week called for a brake on the explosion of four-year engineering degree courses, and recommended that most courses be improved by increasing the third academic year to 40 weeks.

The council said in its second major policy statement there was a place for a limited number of "extended" degree courses, but these should not cater for more than 20 per cent of student engineers in universities and 10 per cent in polytechnics. These courses, which would lead to an M Eng qualification, would be for the high-flying engineers identified in the Finniston report as scarce in British industry.

In universities, the Engineering Council estimates that the existing 47 four-year courses, plus another 25 already planned, will account for 15 per cent of engineering undergraduates in universities, so the scope for further expansion is limited. The council's statement says that all other engineering students should follow "enhanced" courses, leading to a B Eng, but these should not last more than three years. Enhanced courses would include more study of design, management and business methods. They should place special emphasis on engineering ap-

plications to produce graduates who possess "a thorough knowledge of scientific principles and engineering practice, together with an appreciation of the industrial or business environment".

Extended courses would offer study of one branch of engineering in more depth, more on business methods, or a broader, multi-disciplinary programme, and all would feature extensive project work and industrial case studies. For both types of courses, the council says the recommended work should be fitted in by increasing the final year to 40 weeks if necessary.

Mr Geoffrey Hall, director of Brighton Polytechnic and chairman of the council's education and training committee, emphasized that many courses already offered all the elements of an "enhanced" curriculum, and others would often be able to qualify as enhanced without stretching terms. "There is undoubtedly extraneous matter in some degree courses - academics tend to just add things on as disciplines develop instead of redesigning part of the course", he said.

The council statement also emphasised that industrialists should be included in all course development teams, and extended courses should not be started at the expense of reducing student numbers, as has happened with most existing

one year courses. The statement recommended that selection for extended courses was deferred until after one or two years continuous assessment on an ordinary degree course, and should take account of qualities aside from academic performance.

The council's recommendations on the proportion of longer courses are broadly in line with guidance from the Department of Education and Science. Sir Keith Joseph, Secretary of State for Education, wrote to council chairman Sir Kenneth Corfield last December, calling on the council "to discourage any expectation of a general extension of the length of academic course leading to chartered professional status".

However, Professor Gordon McLellan of Leicester University, chairman of the Engineering Professors' Conference, said that while the 20 per cent target was reasonable in the short term, in the medium term he wanted to see the number of students on four-year courses increase further.

Professor Peter Thompson, dean of engineering at Trent Polytechnic and chairman of the Committee for Engineering in Polytechnics, welcomed the council's statement. But he believed that any extension of the academic year would create problems for engineering faculties in isolation, as well as requiring revision of grant regulations.

Bid to set up Islam courses

by Karen Gold

An international Muslim organization is negotiating with several English universities and local education authorities to set up postgraduate courses - and in one case a department - in Islamic studies.

The World Muslim League, whose London office has recently moved into formerly private college premises in the West End, has made approaches in London, Bradford and Manchester to universities and local authorities.

At Salford University discussions are continuing - though at an early stage - on the establishment of a new department of Islamic studies, with the WML offering to fund two posts initially to set up a taught MA in the subject.

London University's Institute of Education, after being approached about postgraduate teacher training both for religious education teachers in state schools and currently unqualified teachers in the Muslim community, has suggested that the WML fund additional places on its Postgraduate Certificate of Education course, in exchange for extra optional sections in Islam on that course.

The league's director, Dr Hashim Mahdi, met the under-secretary of state for higher education in the last government, Mr William Waldegrave, to put to him the WML's dual concern that Islam's standing in this country should be improved by bettering its academic status.

The league's interest in teacher training has been concentrated in areas with a large Muslim population. Bradford City Council received £50,000 from it this summer for improvements to the Muslim supplementary schools in the city, and is negotiating a considerably larger sum for teacher training to help implement its new policy of teaching Islam and Christianity with equal status in schools.

The Inner London Education Authority Inspectorate has also had discussions with Dr Mahdi on the possibility of the WML running an "A level" course in Islamic studies at its own centre for ILEA religious education teachers.



A polytechnic academic tipped to be architecture's answer to David Bellamy and Magnus Pyke was launched on a television career this week. Ken Martin, head of department at Liverpool Polytechnic's school of architecture, will be seen only in the north west of England in his five-part series, *A Sense of Place*. "I want to let kids have a sense of what good architecture is about. The programme is a mixture of styles like good architecture should be."

The seven stages of adult training

by John O'Leary

Local authority leaders on the committee of the National Advisory Body this week overturned the advice of academics and administrators on the NAB board and made additional cuts in nautical studies.

In its response to the MSC's *Towards an Adult Training Strategy*, the DES pointed to the success of the courses promoted through its programme.

New THES columnists

Two new columnists join *The Times* this week: Dr Ernest Boyer, president of the Carnegie Corporation, and a former US Commissioner for Education in Mr Carter's administration and president of the State University of New York; will write once a month from the United States. Mr Jack Straw, Labour MP for Blackburn has replaced Mr Christopher Price as a Westminster columnist. Both these columns appear on page 22.

Nautical studies face extra cuts

by John O'Leary

While the Scottish report admits that "detailed consideration" might support the retention of specialized provision in several non-nautical colleges, or a federated system of nautical education, it stresses that there is a "powerful logic" in concentrating all nautical education in one centre.

The two contenders are likely to be Glasgow and Aberdeen, since Kingsway runs only a small number of marine engineering courses, and Leith Nautical College is already under threat. The Secretary of State for Scotland intends to transfer Leith from central control to Lothian Regional Council, which hopes to run it as a further education college.

A delegation on behalf of Humber-side, led by Mr Kevin McNamara, MP for Kingston-upon-Hull Central, saw Mr Peter Brooke, under secretary for higher education and chairman of the NAB committee, on Wednesday to put the college's case.

Mr John Stoddart, director of the college, said that nautical work had been rationalized already in the newly merged institution and 73 teaching jobs on 64 different courses would be at risk

A bigger splash from the pool

Polytechnics and colleges will receive at least part of the additional money requested by the National Advisory Body to maintain access and standards in 1984/85. But the amount will fall well short of the £25m needed.

A firm response to the NAB committee's appeal will be given by Sir Keith Joseph, Secretary of State for Education and Science, in September. But the Government's spending targets for local authorities, announced this week, have left room for an increase in the Advanced Further Education Pool.

Members of the NAB committee, chaired by Mr Peter Brooke, under secretary for higher education, were told to expect some improvement in the budget proposed in this year's expenditure White Paper. No indication was given of the amount involved, although they were warned that it would not satisfy their demands.

The local authority spending announcement was not broken down by services, but the overall cuts, allowing for inflation, leave little room for "topping up" institutions' pool allocations. Some £30m was contributed to polytechnic and college budgets last year from the rates and, although legal controls will not be in force until 1985/86, tougher penalties for overspending are bound to reduce this figure substantially next year.

Many of those authorities facing the sharpest cuts, of up to 6 per cent before allowing for inflation, are those which traditionally top up polytechnics' budgets. The Inner London Education Authority, which maintains five polytechnics, and Haringey, which contributes towards Middlesex Polytechnic, are among those on or near the maximum cut.

Projections by the joint central and local government Expenditure Steering Group: Education already put the likely number of compulsory redundancies among lecturers at 1,000 on the assumption of a 5 per cent cut in real terms.

If the recommendation was accepted, a sixth of the college's student intake would be lost, since non-advanced courses would be at risk, and there would be damage, too, to associated courses in fishery studies.

He described the committee's overruling of the board as an explicitly political decision taken against the advice of those "nearest the ground", recalling that there had been no opposition to Humber-side's retention as a centre at the board.

However, Mr John Bevan, the NAB secretary, said there had been doubts about whether the shrinking nautical industry could support even four centres, let alone five. The committee had decided that even the colleges which would lose the remainder of their advanced nautical work would be able to retain radio courses because there were still employment opportunities in this field.

The only English college directly threatened by the cuts is Fleetwood. But the North Western regional advisory council is to consider linking the college with Liverpool Polytechnic and Riverdale College centre.

Sociologists answer their critics back

by Paul Flather

Sociologists, fed up at being penalized by cuts in university teaching and research funding and being constantly criticized for their output, are going on the offensive.

The sociology department at Surrey University has decided to issue occasional statements highlighting its achievements, which include obtaining one of the 17 social science "new blood" posts offered this year.

Professor Peter Abell, professor of sociology, said in the first statement: "We do this in the belief that much of our work has important practical implications and that the sociological study of society has a significant contribution to make to our national life."

The department has attracted five postgraduate awards from the Social Science Research Council for 1983/84, won research grants worth £75,000, created a research group investigating the Social and Personal Aspects of Information Technology (SPAIT) jointly with psychology lecturers, and been given £7,200 to run workshops in research methods.

Sociologists are reacting to criticisms of their discipline given expression last year in the Rothschild report on the Social Science Research Council. For example Dr Janet Finch, who currently chairs the British Sociological Association, pointed out that the "essential task" of sociology was to draw together strands from other social sciences.

Heads of sociology departments took up the issue of cuts with the

University Grants Committee, while the British Sociological Association produced a bulletin, *Counterpoint*, and earlier this year a free student guide to sociology opportunities.

Dr Robert Burgess BSA secretary, said criticism of the discipline had often been discussed by the executive. "We know from talking with careers officers that sociology graduates are as employable as any students. We feel that is a very good reply to any critics."

Sociologists have also responded strongly to attacks from within the profession, in recent months most notably expressed in a research report on the police by Dr P. A. J. Waddington a lecturer at Reading University. He alleged sociologists had used dubious arguments and one-sided research to undermine the police and make them look like villains, and he accused his fellow academic researchers of aiming to bring the police into disrepute and shifting the blame from criminals.

The report, published by the right-wing Social Affairs Unit, was heavily criticized in an article in the BSA newsletter by Mr Alan Waton of Bradford University. Dr Robert Baldwin, a researcher on legal and police issues at the Oxford socio-legal centre, said it was "highly selective".

"Can he condemn a whole discipline because he disagrees with a few individuals?" he asked. The controversy is continuing in the pages of the newsletter, with a rejoinder by Dr Digby Anderson, head of the unit. But it is clear sociologists are determined to hold their ground.

ARC grants to boost joint enterprise

The Agricultural Research Council is to offer new grants to encourage university researchers to set up joint projects with ARC institutes.

The scheme is one of the first responses to the Morris working party on the balance between in-house and university research among the research councils, whose report was published last week. Although it was approved by the ARC before the Morris report appeared, it was influenced by knowledge of its general recommendations.

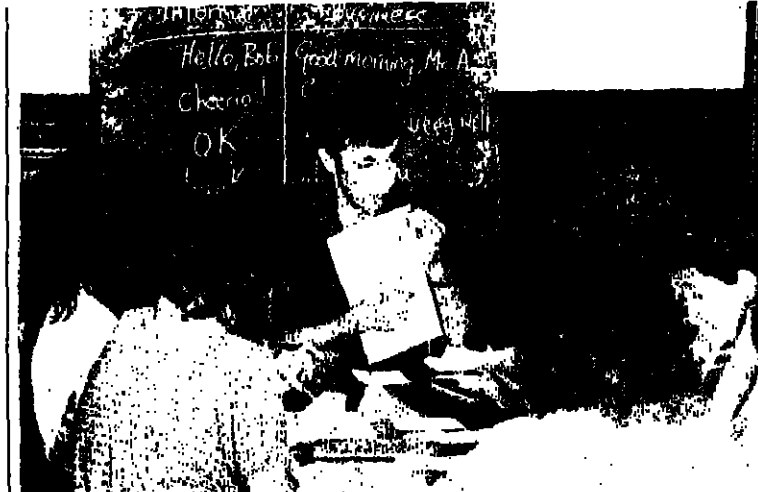
The ARC university-linked research groups will be part of a wider effort to increase the council's support for university research.

Outside critics maintain that the ARC's expenditure in universities is currently running at about 8 per cent of its share of the science vote, is too low. The ARC's current plans entail an increase in university support to 15 per cent of its science budget allocation within five years.

The new scheme will require joint submissions from university groups and the director of the institute involved, with the first approach probably coming from the university. Projects across the whole range of the ARC's programme will be considered, and the successful proposals will lead to staff in institutes and universities working in each other's laboratories. The council has already received a dozen informal approaches from universities about the scheme, which will offer grants for between three and five-year projects to begin with.

The House of Commons Select Committee on Agriculture's report on agricultural research and development earlier this year also endorsed the University Grants Committee's view that much of the applied agricultural research commissioned by the Ministry of Agriculture through the ARC could be placed with universities.

Money for commissioned research accounts for the other half of the ARC's £90m a year expenditure. It is the only one of the science research councils which has a dedicated research vote under planning, economic departments, agriculture, and food research in universities should receive a major boost by the mid-1980s.



Teaching practice for Bob Adamson with "guinea pig" Italian students.

Ever willing helpers

It is 25 years since students started being sent to all corners of the world by Voluntary Service Overseas to teach or provide some skill on a voluntary basis.

In that time the competition for places on VSO schemes has become a more fierce and whereas in the early days school-leavers with little more than A levels to offer were sent out, most volunteers are now graduates, often with some relevant work experience.

This year's new recruits have been receiving their first taste of what it is like on the education training courses being run at several locations.

At Kings College Hall in London, Italian students attending a summer school have been playing guinea-pigs to volunteers going out to provide English-language teaching. They included Bob

Adamson, 25, a graduate from the University College of Wales Aberystwyth, who will be going to lecture in China at the Shanghai medical college.

His task will be to upgrade the English spoken by medical students and lecturers in one of China's poorer provinces.

A sociology graduate from North London Polytechnic and Madeley College of Education, Huan Des Gupta Gonzalez, will be going out in September to an Indonesian university. While Kish Hargreaves, who has had four years' experience teaching English and mathematics, is going to the East Kalimantan region of Indonesia.

He will teach 12 hours a week to students of the English department in the faculty of education at the university to student teachers.

PCL gets conditional reprieve

by Karen Gold

The Polytechnic of Central London's engineering department has academic reorganization, a reduction in student enrolments and a series of external visits following the reprieve three of its courses threatened with loss of validation.

The Council for National Academic Awards, which originally decided to withdraw validation from the three courses, has now agreed - with stringent conditions - to revalidate them in a year. The courses are BSc and BSc (Hons) in electrical and electronic engineering, and in control and computer engineering, and a part-time MSc in digital systems.

The polytechnic's court of governors, which approved the removal of responsibility for the school of science and engineering to the rectorate in 1981, and the reorganization of the three courses each under a new designated director of study.

The management and organization of the courses were the areas most criticized by the CNAA visiting party, which recommended that validation for the courses be withdrawn. A report described by PCL's acting rector, Terence Burlin, to the court of governors as the most critical and damning report from the CNAA had ever read.

The polytechnic has also decided to cut the intake of the BSc in electronic and electronic engineering from 30 to 25 this year, and the MSc from 50 to 45 as a way of freeing resources to make improvements which the CNAA likely to demand.

The CNAA has not yet told PCL detailed conditions for the one year revalidation. But the more stringent conditions include a recommendation for another review of organization by the department by a visiting party the autumn, as well as a visit during following session to look at academic progress.

Most seriously for the polytechnic the CNAA appeal board will allow revalidation has recommended a full quinquennial review of PCL "at the earliest opportunity". Professor Burlin had succeeded in postponing the quinquennial due March next year for six months because any rector appointed would have been in the job long enough to formulate policy. Now the polytechnic will be under severe pressure to come with a full-scale review even before the original date.

YTS surplus places claim is denied

by Patricia Santinelli

Manpower Services Commission claims that more places are likely to be available than needed on the Youth Training Scheme were denied by careers officers this week.

Mr David Young, chairman of the MSC, announced last week that the careers service had told them that far fewer young people than expected were coming forward, either because they had jobs or were staying on at school and college.

But Mr Ray Hurst, president of the Institute of Careers Officers said the careers service had not been asked for any formal survey. On the contrary, the current position was a shortage of vacancies in many parts of the country, and a likely delay in starts.

The commission has not yet decided whether 17-year-old unemployed young people who are not school leavers and are said to number 200,000 would be included on next year's scheme.

The technical and vocational education initiative (TVEI) in which 14 local authorities are currently participating would be extended from September 1984 at an extra cost of £6m a year.

The TVEI National Steering Group had been asked to draw up proposals for the extension which is to cost £20m a year over five years and put these to the commission in September before Government approval is sought. There are also plans to extend the TVEI to Scotland.

Exeter College Governors have recommended that Devon County Council should finance the extra cost, around £250,000, the college is incurring through running the Youth Training Scheme.

Last month the college was told by the council to find the extra money out of its budget following a refusal by the authority to finance the scheme because of the risk of incurring Government penalties for overspending.

As a result the college faced cutting back on all staff appointments in order to keep the YTS courses.

The council's further education subcommittee is to consider the recommendations at its next meeting in September. The £250,000 is basically to pay for the salaries on a full time basis of staff involved in YTS.

Mr Hurst did not see how one could claim that many more young people were staying on at school or college when the institutions themselves had no idea how many youngsters to expect and would not know until September.

The MSC's latest figures show that 98 per cent of the 460,000 year long training places have been identified and that 268,000 have been approved. More of these are for Mode A schemes - employer-based - but Mode B2 schemes - those run mainly by colleges - are only halfway to target.

Mr Young said it was unlikely that the financial penalties faced by local authorities which supported the YTS would be lifted, as ministers had not changed their minds.

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Rescue bid launched by SERC

by Jon Turney
Science Correspondent

The Science and Engineering Research Council has launched a rescue bid for expensive satellite tracking equipment. The council hopes someone else will foot the annual £240,000 bill for the Satellite Laser Ranger, only just installed at the Royal Greenwich Observatory, and two satellite cameras operated by Aston University.

SERC funding for the instruments, which are widely used by UK and overseas space scientists and geophysicists, was due to stop at the end of the year as a result of budget cuts. But the council's astronomy, space and radio board has now convened a panel to examine other options.

The panel will have representatives from the Ministry of Defence, Department of Industry and the Natural Environment Research Council, as well as the SERC, in the hope that one or more of them will find money to keep the instruments working.

The Earth Satellite Research Unit at Aston, which operates the two Hewlett cameras, has a stock of 15 and needs nearly £500,000 over the next three years. The unit specializes in very precise location of orbiting satellites, essential information in a range of studies of the Earth from space.

The Satellite Laser Ranger can make similar measurements extremely accurately for satellites carrying a special laser reflector. The new instrument, developed at Hull University, was recently set up at the Royal Greenwich Observatory and will cost £85,000 a year to run.

SERC funding for the two instruments will now continue at least until the astronomy board has considered the panel's conclusions, expected to be available by the end of this year.

Glasgow cleaner wins job battle

Glasgow University has been ordered to pay £2,800 compensation to a cleaner dismissed for taking a nightdress from a room she thought was vacant.

This is the culmination of a protracted battle since early spring between the university and Mrs Elizabeth Gow, who was dismissed after taking a nightdress from a room in a hall of residence. Another cleaner, who had taken a pair of shoes, coffee and tea from the same room, was given a warning.

Mrs Gow won an industrial tribunal case for wrongful dismissal, and the university was ordered to reinstate her. It appealed against this, but lost, and offered to reinstate her within the university, although not in the halls of residence. Mrs Gow refused reinstatement unless it was the same job, and has now won her appeal for compensation.

The tribunal found that the university had an "extremely haphazard" system, leaving it to the discretion of staff whether they kept items found in vacant rooms. The university is refusing to comment on the case.

New directory

Rising unemployment and the increasing use of microcomputers are both reflected in the new *Directory of Further Education* which now lists a far greater number of retraining, leisure and new technology courses. Available from CRAC Publications, Hobsons Press Ltd, 241 h/b and £35 p/b.

But it recommends that despite the SSRC's financial difficulties, it should consider allocating a higher proportion of its own studentships to the subject.

A further recommendation to the Landscape Institute, the professional body, is that it should explore the possibilities of private sector funding for additional student support.

It draws attention to the northern bias of the existing courses and says that any new ones should be in the south of England.

Unions to voice training misgivings at TUC

by David Jobbins

The rumbling undercurrent of trade union suspicion over the Youth Training Scheme is to come to the surface at the TUC in Blackpool early next month.

A wide range of trade unions have tabled motions critical of fundamental aspects of YTS - and one has called for reconsideration of the Labour movement's continued involvement in the scheme.

Official TUC policy has been to offer a guarded welcome to YTS as a step towards a coordinated education and training programme for all school leavers while encouraging affiliated unions to monitor scrupulously all proposed schemes to ensure that the abuses of the Youth Opportunities Scheme are avoided.

Now there is growing anxiety in some quarters that a tougher stance is called for. If the National Graphical Association - this week facing suspension from the TUC because of the *Financial Times* dispute - is able to call for a reconsideration of support for the Government's training policies and effectively a campaign for a return to training within industry and reintroduction of the industrial training boards.

The NGA attacks the YTS for inadequate quality and failure to alleviate the "drastic plight" of the young unemployed.

Other unions, while severely critical of YTS as it is now developing, are seeking a less radical reappraisal from the TUC. The National Association of Teachers in Further and Higher Education expresses suspicion of the

effect on the whole further education sector.

The Manpower Services Commission is to write to the Confederation of British Industry asking the employers' organization to encourage YTS trainees on Mode A schemes to join student unions when in college.

The development was welcomed by the National Union of Students as a breakthrough.

NUS believes the affiliation fee - likely to be about £1.30 for the 13-week period of off the job training - should be paid by employers out of the money they receive from the MSC.

NUS is also anxious to press the MSC to tighten up on safeguards against sex discrimination among trainees. Trainees are excluded from protection under the Sex Discrimination Act.

The National and Local Government Officers' Association criticizes the privatization of the educational element of YTS, warning that it is detrimental to the interests of young people and will have a retrograde

effect on the whole further education sector.

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'Relevant' policy criticized

Careers advisors have come out strongly against debaring graduates whose degrees are not relevant to the school curriculum from entering teacher training.

In a note to the Advisory Committee for the Supply and Education of Teachers, the Association of Graduate Careers Advisory Services says that to restrict entry by specifying subject requirements can only narrow the field and produce less good teachers.

"Moreover, this is the kind of restriction which might have to be lifted if the demand for teachers grows as is being anticipated," AGCAS says.

The restriction on non-relevant degree holders was first spelt out in the White Paper *Teaching Quality* and is now included in new criteria for teacher training courses being considered by the Secretary of State for Education.

This recommends that postgraduate entrants should have studied for two years at undergraduate level subjects which are related to the developing school curriculum. On this basis, degrees in psychology, anthropology, sociology, to name but a few, are not relevant for entry to teacher training.

AGCAS believes that for secondary teaching related study to degree level should usually indicate an ability to be taught. While for primary, the breadth of general education and interest of the teacher have more relevance than the degree subjects studied.

"From contact with ex-students and PGCE courses within our institutions we know that 'non-relevant' graduates perform as well as, if not better, than 'relevant' graduates on teaching practice," AGCAS says.

The association urges that as wide a range of applicants be encouraged, with institutions allowed to pick the best candidates available.

It points out too that if new restrictions are being introduced as part of Government policy, sufficient notice should be given.

If a decision is announced in September 1983, the new requirement could be applied to those entering PGCE courses in October 1986. When new requirements for O level English and Maths were introduced, PGCE entrants were given four years' notice, AGCAS says.



Enjoying a holiday in the country - thanks to students from Swansea Volunteer Service, which is based at University College Swansea. For the first time the students are organizing a summer holiday for 58 children in the Wiltshire countryside.

Medal winners

Professor John Kingman, chairman of the Science and Engineering Research Council, is one of three recipients of this year's Royal Medals awarded by the Queen on the recommendation of the Royal Society.

Professor Kingman's medal is in recognition of his mathematical research in queueing theory and genetics. The Royal Medal for work in biological science goes to Professor W. S. Feldberg of the National Institute for Medical Research for his work on nerve transmission, and the medal for applied science to Professor Dan Bradley of Trinity College, Dublin, for research on ultra-short pulse lasers and cameras for recording them.

The departments were small, expensive to run, and there was a risk that retiring staff would not be replaced. But the working party set up to examine the health of the courses has found those fears unfounded.

"All four courses are flourishing," it reported. But it identified student support as a matter of concern, noting that the number of Social Science Research Council awards slumped from 36 a year for the four courses to just 10 in 1982/83.

To maintain numbers the universities could no longer rely on students with high-quality first degrees, falling back on self-financing and overseas students. But numbers had kept up remarkably well, totalling 42 entrants in 1981/82 and 46 in 1982/83 compared with approximately 55 a year before the cuts were implemented.

Fees for a home student on the two-year course are £4,000 a year. Admission of less well qualified students has had no appreciable effect on success rates or employability, the working party concludes.

The seven stages of adult training

continued from front page

ramme of professional, industrial and commercial updating (PICKUP) and singled out seven other broad areas.

Steps could be taken to encourage the better assessment of individual training needs so that an appropriate choice of course provision can be taken. Financial incentives could be offered to meet the costs of continuing education either through direct or indirect cash aid.

Assistance could be given to educational institutions so that they can investigate properly what are the adult training needs.

THES peer review

Oxbridge still dominates the quality league

The results of *The THES's* second peer review survey of the best departments may offend some people in higher education but will surprise almost no one.

In each of the four subjects chosen, chemistry, French, politics, and architecture, there was virtually no disagreement about which were the best departments in terms of research. Ranking departments in order of teaching merit caused more difficulty, but even here there was almost no cross-purposes confusion.

● In chemistry the top research departments are Cambridge, Oxford, and Imperial College universities, with Bristol and Southampton universities some way behind. The best teaching departments are identical.

● In French Oxford and Cambridge universities are again dominant in research, followed by St Andrews, Bristol University, and University College London. Oxford stays top in teaching merit, but Cambridge is pushed into fourth place by Leeds and Bradford.

● In politics a university big five dominates - Oxford, Manchester, the London School of Economics, Essex, and Strathclyde, the first three traditional centres of excellence, the last two more recent interlopers. The order of teaching merit is more messy with Exeter and Hull highly regarded.

● In architecture the research rank is led by Cambridge University and the Bartlett School at University College, London, although Strathclyde and Edinburgh are also highly regarded. The teaching rank is led by the exceptional Architectural Association and second comes

Canterbury College of Art.

This is the second peer review survey carried out by *The THES*. The first published last December covered physics, history, economics and civil engineering. The intention is that this should be a regular feature covering each time a humanities, social science, natural science, and applied science or professional discipline.

This second survey provoked fewer protests than the first, perhaps because the memory of the 1981 cuts has for the moment faded. Ranking departments in order of merit is now a less ticklish business. Almost no one saw this second survey as another assault on the universities.

There were however more practical objections. In French the divisions between linguistic, language and, in the polytechnics and colleges, vocational departments

created problems. Chemistry probably needed to be sub-divided into at least physical, organic and inorganic divisions. Politics means different things in different institutions. Only with architecture, a smaller and more cohesive field, were there no serious difficulties of definition and demarcation.

There were also difficulties over the specific requirements of some of the questions. Thus, for example Scottish universities clearly were unable to supply A level scores based on the Universities Central Council on Admission points system. But on the whole UCCA scores appeared to match the "teaching" rank tables, as one would expect.

Doubts were also expressed about the validity of finding out the amount of external funding earned. Even over a three year period the figures can vary enormously because of the way contracts are won. Nevertheless this question did reveal a different pattern to the "research" rank table, with for example in politics the London School of Economics winning £90,000 over three years compared to Brunel's £400,000. Inevitably the larger departments had the largest output in terms of books and articles, and a fairer comparison would have been output per staff member.

The question dealing with the most favoured department in Britain in which the respondent would most like to work, excluding his or her present department, inevitably pointed to Oxford or Cambridge, or London, irrespective of the subject involved.

The most favoured department worldwide, again perhaps inevitably, produced a strong American bias, with Harvard the clear leader, followed by Berkeley, Yale, the Massachusetts Institute of Technology, Stanford, Princeton, and the University of California at Los Angeles.

There is probably no way in which these legitimate complaints could be met without sub-dividing departments into smaller categories, which would probably obscure rather than illuminate their reputations. Certainly the whole exercise would lose its point for those in other disciplines.

This survey is not an objective report of the relative merits, in research and teaching, of different departments; it is a report of the subjective opinions of heads of department on this subject. Clearly there is a danger, particularly at time of rapid change, that these opinions will be out of date. But they should make up a knowledgeable and sophisticated electronic

total of five and less are grouped at the end of the table because, in a few cases, these represent a single narcissistic vote.

Ninety-one questionnaires were sent out to French departments and 32 complete replies received, a response rate of 35 per cent. However, many institutions have linguistic rather than language departments and in the case of most polytechnics French is simply an option in a broad humanities degree. So the effective response rate from mainstream French departments is probably rather higher.

In politics 92 questionnaires were sent out and 38 replies received, a response rate of 41 per cent. In chemistry 86 questionnaires went out and 32 replies were received, a response rate of 38 per cent. In architecture the figures were 34 and 13, and the response rate was 36 per cent.

For example, received £90,000 over the last three years compared with Brunel's £400,000. Manchester (£264,788), Essex (£255,966), Strathclyde (£189,132), and York (£193,000) also attracted impressive sums in external funding.

The UCCA scores of successful candidates in politics departments tell the usual story of the attractions of geography mixed with sometimes rather garbled reputations for being good at the subject. Most universities admit students with average UCCA scores of between 9 (three Cs) and 12 (three Bs).

Durham, for instance, managed an average score of 13 with Bristol and Exeter only a little behind. But Essex with a formidable research reputation had to make do with an average score of 9. Among polytechnics the range was between 4 and 6, with Sheffield City Polytechnic at 7 perhaps showing a growing capacity to attract better students.

As for another place to work the overwhelming choice within Britain was not surprisingly Oxford, with the

reputation in teaching were not so clear cut. But again five universities stood out: Oxford once more headed the list followed by Manchester, Exeter, the LSE, and Hull, Essex, and Strathclyde, although both received respectable scores, are clearly better known for their research than their teaching.

Warwick, Keele, Reading, Lancaster, Cambridge, Newcastle and Leeds are also noted for their politics teaching. North Staffordshire and Wolverhampton Polytechnics also scored as high as Durham and Sussex. Five other polytechnics were mentioned.

In terms of publications, the LSE with 30 books and 250 articles by members of the department over the last years is the powerhouse of politics research. Manchester (35 and 170), Essex (37 and 145), Hull (26 and 134), and York (32 and 36) come next.

The pattern of external funding of research tells a different story: none

of the top four departments received any external funding. The next four, Manchester, Exeter, the LSE, and Hull, each received between £10,000 and £20,000. The remaining 14 departments received between £1,000 and £10,000.

The following institutions were also mentioned: Open University, Leicester Polytechnic, Sheffield City Polytechnic, York, East Anglia, and Oxford Polytechnic (5), Southampton, Bristol, Sheffield, and Nottingham (4), Aber-

deen, York (3), Swansea, Sheffield, and Nottingham (4), Aber-

deen, York (3), Swansea, Sheffield, and Nottingham (4), Aber-

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deen, York (3), Swansea, Sheffield, and Nottingham (4), Aber-

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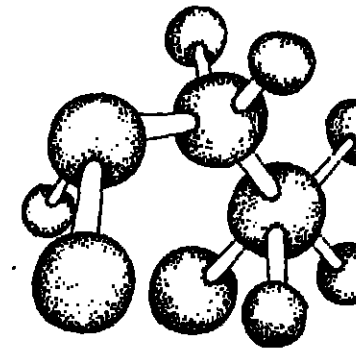
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THES peer review



CHEMISTRY

Cambridge and Oxford universities by research and scholarship, and undergraduate teaching, tables in chemistry. They achieve almost the same scores in both tables, well ahead of any other institutions.

They are followed, again both in terms of research work and in terms of teaching, by Imperial College, London. Given its extensive laboratory facilities it is to be expected that it scores so well.

Bristol University is very highly regarded for its research, as are Southampton and Nottingham. The ranking is so clear that it points to fairly agreed views among the community of chemistry heads of departments. Leeds, Edinburgh and Sussex universities are also regarded highly for their research, and 18 other institutions are mentioned. Hatfield and Liverpool rate the best polytechnics.

In terms of teaching, a cluster of universities follow on the heels of the "big three" centres, including Durham, Bristol, Nottingham, Queen's University, Belfast, followed by Aberdeen, Loughborough, and Sheffield.

The UCCA scores pretty well match the apparent "teaching" rank of the institutions, with Oxford University, of those who supplied figures, recording the highest three-year average of 14 points. Then came Durham and Bristol universities with 13 each, followed by Imperial and Southampton recording almost 13, Queen's with 12, and Sheffield more than 11 on average. Among polytechnics Liverpool and North Staffordshire both averaged six points.

But the inapplicability of UCCA points to Scottish universities made a slight mockery of the answers to question 5, although one or two did supply A level UCCA scores where available. Another simply pointed out the questionnaire had been drawn up by someone English.

Heriot-Watt. The survey did highlight a certain ambiguity between teaching in a strictly professional sense, and teaching in a wider, academic sense.

The UCCA scores that were available tended to confirm the general teaching rank order. Edinburgh recorded an average of 12 during the past three years, Liverpool and Sheffield universities scored 11, Manchester University more than 10, Strathclyde between 9 and 10; the polytechnics averaged about six.

The most impressive supplied publications record came from Strathclyde with nine books, 147 articles, and 51 occasional papers produced in the past five years. Portsmouth Polytechnic had a high output with seven books and 101 articles, Edinburgh produced four books and 110 papers, and Sheffield eight books and about 50 papers.

The following institutions were also mentioned: Kingston Polytechnic (5), University of Wales Institute of Science and Technology, Cardiff (5), Sheffield University (5), Birmingham Polytechnic (4), Oxford Polytechnic (3), Newcastle University (3), Oxford University (2), Portsmouth Polytechnic (2), Central London Polytechnic (1).

In terms of undergraduate teaching, the survey produced a much wider spread with two very interesting leaders: the Architectural Association, which has an international reputation, and Canterbury College of Art. Next came the Bartlett School at UCL, and Sheffield University, Nottingham and

which won £3.2m, Edinburgh £1.75m, Southampton £1.69m, Imperial College £1.5m, while UWIST, Durham, Aberdeen, Exeter, Sheffield universities, and Liverpool Polytechnic all earned more than £500,000.

The large departments scored best in terms of their publications record: Bristol staff produced 12 books and 830 articles during the past five years, Queen's 18 books and 600 articles, Southampton 17 books and 635 articles, Edinburgh 10 books and 425 articles, Reading nine books and 419 articles. Oxford out on its own produced 33 books and 1,594 articles.

Several universities, including Bristol, Oxford, Liverpool, Newcastle, have more than one department of chemistry, for example covering inorganic, organic, physical theoretical or even analytical aspects of the discipline. The final league tables are therefore dependent on which section of the chemistry department returned the survey.

Polytechnics also felt their work was much more applied and not really comparable. One polytechnic even sent in its 1979-81 research report to reinforce the point. As one polytechnic department head said the report and system must bias the research rank tables in favour of universities. Another pointed out that all research was industrially orientated, linked to work by local companies.

"Research" rank

1. Cambridge	92
2. Oxford	90
3. London	82
(Of which Imperial College)	80
4. Bristol University	31
5. Southampton	20
6. Nottingham University	16
7. Leeds University	16
8. Edinburgh	7
9. Aberdeen	7
10. Loughborough	7
11. Sheffield	7
12. Manchester University	6
13. Glasgow University	6

The following institutions were also mentioned: Queen's University Belfast (5), University of Wales Institute of Science and Technology (5), Salford University (4), Sheffield University (4), Aberdeen University (3), Hatfield Polytechnic (3), Liverpool Polytechnic (3), Liverpool University (3), Loughborough University (3), Manchester University (3), Durham University (2), Glasgow University (2), Huddersfield Polytechnic (2), Portsmouth Polytechnic (2), Sheffield Polytechnic (2), Kent University (1), Leicester University (1), North London Polytechnic (1).

The following institutions were also mentioned: Leeds University (5), Liverpool Polytechnic (5), Lancaster University (4), Salford (4), Hatfield Polytechnic (3), Hull University (3), Liverpool Polytechnic (3), Reading University (3), St Andrews University (2), Exeter University (2), University of East Anglia (2), Heriot-Watt (2), Huddersfield Polytechnic (2), Kingston Polytechnic (2), Southampton University (2), Waverhampton Polytechnic (2), Bath University (1), Portsmouth Polytechnic (1), Thames Polytechnic (1), Trent Polytechnic (1), Sussex University (1).

The following institutions were also mentioned: Aston (5), Lancaster, East Anglia, Essex, Surrey and Newcastle Polytechnic (3), Salford and Bath (2), and Hull, Aberdeen, and the Polytechnic of Central London (1).

The following institutions were also mentioned: UMIST, Lancaster and Exeter (5), Birkbeck, Kent, Belfast, and the Polytechnic of Central London (4), Aberystwyth, Newcastle Polytechnic, Essex, Southampton, Kingston Polytechnic, and the Cambridge College of Arts and Technology (3); Birmingham, Aberdeen, Nottingham, and Ealing College of Higher Education (2), and East Anglia, York, and Waverhampton Polytechnic (1).

The following institutions were also mentioned: Brighton Polytechnic (5), Cambridge University (5), Kingston Polytechnic (5), Oxford University (5), Strathclyde University (5), Bath (4), Dundee (4), Liverpool University (4), Macmillan School, Glasgow (4), Newcastle University (4), Birmingham Polytechnic (3), University of Wales Institute of Science and Technology,

"Teaching" rank

1. Cambridge	38
2. Oxford	36
3. London (Imperial College)	23
4. Durham University	13
5. Bristol University	13
6. Nottingham University	10
7. University of Wales Institute of Science and Technology, Cardiff	10
8. Edinburgh	9
9. Queen's University, Belfast	9
10. Aberdeen	7
11. Loughborough	7
12. Sheffield	7
13. Manchester University	6
14. Glasgow University	6

The following institutions were also mentioned: Leeds University (5), Liverpool Polytechnic (5), Lancaster University (4), Salford (4), Hatfield Polytechnic (3), Hull University (3), Liverpool Polytechnic (3), Reading University (3), St Andrews University (2), Exeter University (2), University of East Anglia (2), Heriot-Watt (2), Huddersfield Polytechnic (2), Kingston Polytechnic (2), Southampton University (2), Waverhampton Polytechnic (2), Bath University (1), Portsmouth Polytechnic (1), Thames Polytechnic (1), Trent Polytechnic (1), Sussex University (1).

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registered 13 (the equivalent of more than three Bs), with most universities grouped around 10 (a B and two Cs). The most popular polytechnics had scores of around 6 (three Ds or two Cs).

Unsurprisingly Oxford and Cambridge proved to be the most attractive institutions for an alternative job. But Exeter, Edinburgh, St Andrews, Bradford, East Anglia, Bristol and Sussex universities were also mentioned.

Worldwide the most attractive alternative employers were the University of Geneva at the top, followed closely by Harvard, Yale, and Sydney. Berkeley, Stanford, Princeton and the Sorbonne were also mentioned.

Two main areas of ambiguity emerged in the course of this survey of the opinions of the heads of French departments. The first was the well known distinction between departments with a literary orientation and those with a more vocational bias. Most universities fall into the first category but the technological universities and a few others fall into the second.

There is a similar difficulty arising from the fact that in some universities and in most polytechnics and colleges French is taught in close conjunction with other subjects.

The second area of ambiguity arises from the fact that because of the enforced contraction of the universities, many French departments are in a state of flux. From next year Cambridge will have no professor of French and Oxford only one. Traditionally strong departments in Manchester, Hull and Leicester have suffered from premature retirements.

Finally one head of department suggested that other factors should be taken into account before any attempt was made to construct league tables of relative merit. He suggested the number of postgraduate degrees completed, the career record of graduates, consultancy work, and the contribution of the department to "the promotion of French culture".

The average UCCA scores of successful candidates tended to reflect this pecking order. Leeds and Durham

The following institutions were also mentioned: Aston (5), Lancaster, East Anglia, Essex, Surrey and Newcastle Polytechnic (3), Salford and Bath (2), and Hull, Aberdeen, and the Polytechnic of Central London (1).

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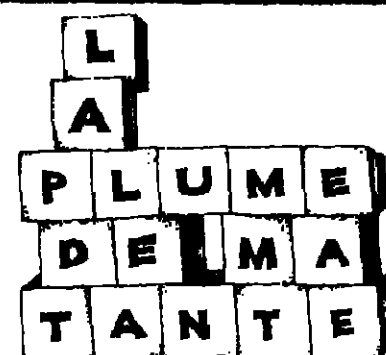
"Teaching" rank

1. Architectural Association	15
2. Canterbury College of Art	14
3. London - Bartlett School	13
4. of Architecture, University College	13
5. Sheffield University	13
6. Liverpool	13
7. Nottingham	11
8. Manchester	11
9. Edinburgh	8
10. Heriot-Watt	8
11. Brighton Polytechnic	5
12. Cambridge University	5
13. Kingston Polytechnic	5
14. Oxford University	5
15. Strathclyde University	5
16. Bath (4)	4
17. Dundee (4)	4
18. Liverpool University	4
19. Macmillan School, Glasgow	4
20. Newcastle University	4
21. Birmingham Polytechnic	3
22. University of Wales Institute of Science and Technology,	

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FRENCH

Three universities - London, Oxford and Cambridge - dominate research and scholarship in French according to the collective judgment of heads of department. Within London University College is most commonly regarded as the focus of excellence.

There is also fair agreement about which universities come next in the pecking order of research - St Andrews, Reading, Bristol, and Sussex. Also highly regarded are Warwick, Leeds, Exeter, Edinburgh, and Portsmouth Polytechnic.

However the most impressive publications record was achieved by Aston with 18 books and 113 articles published by members of the French department over the past five years. Five other university departments had ten or more books published during this period - Salford, Kent, Durham, Hull and Liverpool.

On teaching quality there was a greater spread of opinions. Oxford came top and Cambridge and Bradford university third, but Leeds was sandwiched between them clearly with a formidable reputation. Sussex, St Andrews, Cardiff, Edinburgh and Reading universities were also highly regarded.

The average UCCA scores of successful candidates tended to reflect this pecking order. Leeds and Durham

The following institutions were also mentioned: Leeds University (5), Liverpool Polytechnic (5), Lancaster University (4), Salford (4), Hatfield Polytechnic (3), Hull University (3), Liverpool Polytechnic (3), Reading University (3), St Andrews University (2), Exeter University (2), University of East Anglia (2), Heriot-Watt (2), Huddersfield Polytechnic (2), Kingston Polytechnic (2), Southampton University (2), Waverhampton Polytechnic (2), Bath University (1), Portsmouth Polytechnic (1), Thames Polytechnic (1), Trent Polytechnic (1), Sussex University (1).

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"Teaching" rank

1. Oxford	53
2. Leeds	29
3. Bradford	28
4. Cambridge	28
5. Sussex	16
6. Cardiff	12
7. St Andrews	11
8. Reading	11
9. Edinburgh	10
10. Reading	10
11. Bath	8
12. Durham	8
13. Warwick	8
14. Aston	8
15. Bristol	8
16. Portsmouth Polytechnic	8
17. Hull	8
18. Manchester	8
19. Salford	8
20. Surrey	8

The following institutions were also mentioned: UMIST, Lancaster and Exeter (5), Birkbeck, Kent, Belfast, and the Polytechnic of Central London (4), Aberystwyth, Newcastle Polytechnic, Essex, Southampton, Kingston Polytechnic, and the Cambridge College of Arts and Technology (3); Birmingham, Aberdeen, Nottingham, and Ealing College of Higher Education (2), and East Anglia, York, and Waverhampton Polytechnic (1).

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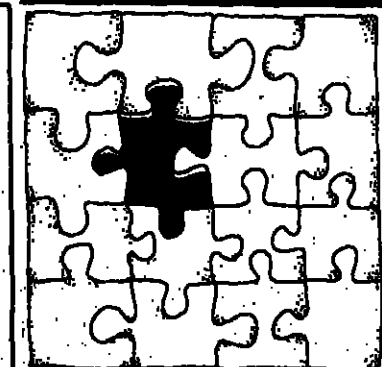
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POLITICS

There is very little doubt indeed among heads of politics departments about which are the best universities in their subject. In terms of research excellence five dominate the field - Oxford, Manchester, the London School of Economics, Essex, and Strathclyde. Hull and Warwick are not far behind in peer esteem, and Cambridge, Exeter, and Lancaster also have useful reputations. No other institution got more than one vote, sometimes their own.

Reputations in teaching were not so clear cut. But again five universities stood out: Oxford once more headed the list followed by Manchester, Exeter, the LSE, and Hull, Essex, and Strathclyde, although both received respectable scores, are clearly better known for their research than their teaching.

Warwick, Keele, Reading, Lancaster, Cambridge, Newcastle and Leeds are also noted for their politics teaching. North Staffordshire and Wolverhampton Polytechnics also scored as high as Durham and Sussex. Five other polytechnics were mentioned.

In terms of publications, the LSE with 30 books and 250 articles by members of the department over the last years is the powerhouse of politics research. Manchester (35 and 170), Essex (37 and 145), Hull (26 and 134), and York (32 and 36) come next.

The pattern of external funding of research tells a different story: none

of the top four departments received any external funding. The next four, Manchester, Exeter, the LSE, and Hull, each received between £10,000 and £20,000. The remaining 14 departments received between £1,000 and £10,000.

The following institutions were also mentioned: Open University, Leicester Polytechnic, Sheffield City Polytechnic, York, East Anglia, and Oxford Polytechnic (5), Southampton, Bristol, Sheffield, and Nottingham (4), Aber-

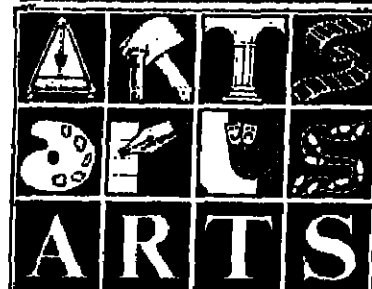
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reputation in teaching were not so clear cut. But again five universities stood out: Oxford once more headed the list followed by Manchester, Exeter, the LSE, and Hull, Essex, and Strathclyde, although both received respectable scores, are clearly better known for their



SIR STEVEN RUNCIMAN reviews the Council of Europe exhibition on Anatolian Civilization in Istanbul; RICHARD ALLEN CAVE discusses Anthony Burgess's translation of *Cyrano de Bergerac* for the RSC; and BRIAN MORTON reviews a season of films based on American "hard-boiled" thrillers.

Panache personified

Panache is the essence of *Cyrano de Bergerac*: a mode of being as well as of expression. It is the source of his integrity and the basis of his claim to immortality.

It is a difficult quality for an English actor to convey, so given are we to the understatement of emotion: it is a flamboyance that is not mere exhibitionism, for it is rooted in a complex philosophy of life – a code of behaviour like the Renaissance concept of *sprezzatura* that demands the strenuous commitment of the whole man in his every gesture. It derives in *Cyrano* from a profoundly tragic awareness that fate has twice cursed him in giving him a monstrous nose that renders his every gesture potentially ridiculous and in placing him in an age that is vicious, meanspirited, too preoccupied with status and intrigue to relish the exalting virtue that it is. The danger for the actor is to make the panache seem a romantic, theatrical swagger when it should intimate a brilliance of mind, for *Cyrano*'s insight into the folly of his age is acute, his mastery of every situation derives from a knowledge of the superiority of his imagination and sensitivity over all comers. Panache is a willful assertion of moral and intellectual difference, a triumph of the spirit against immense odds; a clear-eyed

acceptance of one's isolation and in that, as de Guiche – *Cyrano*'s bitter enemy – has finally to admit, there lies an enviable freedom: *Cyrano* places himself beyond the reach of anyone's pity, for he is never self-pitying.

Rostand devised the role of *Cyrano* for Benoit Coquelin (1841–1909) who excelled in performing the tirade, ardent virtuoso powers of declamation. It is through words as well as deeds that *Cyrano* creates and sustains his conception of an ideal self: "Moi, c'est moi-même que j'ai mis en scène," he claims and Rostand makes his verbal artistry symbolic of this and of an abundant zeal for life. Words spill from him in a rich exuberance of feeling. It is here that the English actor relies most heavily on a translator: the subtlety that is panache can easily be flattened into bravado or mawkishness. Too literal a translation can kill the wit – especially the effects achieved in the French by the succinctness and sense of climax possible with rhyming Alexandrines. Anthony Burgess's version for the Royal Shakespeare Company can match the epigrammatic style adroitly ("Our devil changed into a Christian brother" / Attack one nostril and he turns the other") and he exploits one's expectations of rhyme with comic iron in the scene where Christian proves his courage by inter-

rupting *Cyrano*'s account of the battle at the Fort de Nesle, turning the epic narrative into a farce with references to the prodigious size of the hero's nose. Every couplet seems to invite yet another synonym for that unfortunate member.

In more intimate moments when *Cyrano*'s imagination takes wing, Burgess expands into apt metaphor where the original explores the niceties of grammar. When *Cyrano* woos Roxane on Christian's behalf, his ardour brings him to a pitch of sensitivity in which he can gauge Roxane's every delicate fluctuation of feeling, although she towers above him on her balcony. In an earlier translation Christopher Fry translated this with prosaic literalness: "I can feel the gentle trembling of your hand / Shaking the jasmine branches when I stand." Burgess goes for the French and makes it a moment of complete imaginative identification with the beloved – tender, devoted, a perfect consummation: "... and the passion of that trembling weaves / A spider-filament that seeks me now / Feeling its way along the jasmine bough." What Fry renders as a physical fact, Burgess by an airy fantasy transforms into an experience of spiritual union that touches rapture, wonder and emotional scruple. In his truth to

the complex psychology of Rostand's creation, Burgess's version is unerring in its exact.

So too is Jacob's rendering of *Cyrano*: his voice is effortlessly expansive and musical throughout its immense range; wit sparkles through his timing and inflections; the tonal transitions are dazzling, the moments of pathos perfectly judged. He bestrides the seething world of seventeenth-century France that Terry Hands's production evokes, a pillar of commitment and fiery sincerity amid the affectation and duplicity. Panache for Jacob is not an excuse for theatrical

mannerism; his integrity like *Cyrano* is absolute: he gives his virtuously to service of the role rather than to the role as a vehicle for actorly display. Always a fine actor, his portrayal of *Cyrano* proves him a great one, daring matched with a medical scruple.

Jacob's *Cyrano* is the peak embodiment of panache.

Richard Allen Cave

Richard Allen Cave is lecturer in English at Bedford College, London.

Revelations

Anyone lucky enough to visit Istanbul before the end of October will have the additional pleasure of being able to see one of the most remarkable exhibitions of modern times.

It may seem odd that the council of Europe should sponsor an exhibition that deals with Asia Minor; but it is a useful reminder that European civilization cannot be studied in isolation. After all, it was mainly in the prehistoric culture of Anatolia that Greek civilization had its roots; and the part played by the Greeks of Anatolia and the neighbouring islands in laying the foundations of philosophy and science was paramount. In Hellenistic and Byzantine times the influence of the East was omnipresent; and the Turks, though always mindful of their more oriental origins, owed much to their predecessors in Anatolia: There is a thread of continuity running through the exhibition, not always easily visible but not to be ignored.

The exhibits are handsomely housed. The great church of St Irene, in the first court of the Topkapı Palace, has been thoroughly repaired. The prehistoric exhibits are to be seen in the dolerite buildings and the Greek and Byzantine in the church itself. The Seljuk and Ottoman exhibits are in the old stables of the Palace, which have been rehabilitated to make an effective museum. The prehistoric section contains objects illustrating each layer of Anatolian civilization from about the sixth millennium BC. There are of greater interest to the archaeologist than to the art-lover: though there are some lovely gold vessels from Alacahöyük and Kültepe of the third and second millennium BC, and some handsome gold jewelry of the same epoch from Troy. It is really only with the Phrygian objects of the seventh century BC that we begin to see art as we know it, with the sense of proportion and elegance that we associate with the Greeks.

The Greek and Hellenistic exhibits are a little disappointing. One has to go to the Archaeological Museum close by to see such great works as the so-called Sarcophagus of Alexander or the ephesus from Tralles. The sculpture here now in Istanbul is the most provincial work, though there are some charming vases, as well as some handsome portrait busts of the Roman period. The Byzantine exhibits

are few but of high quality, including a splendid silver dish from the Kerkira hoard and the exquisite enamel work of St Eudocia. But the best of Byzantine art is not movable: it can be seen in St Sophia itself or in the Kahriye Camii, with its incomparable mosaics and frescoes.

It is Ottoman art that provides a great revelation of the exhibition. Indeed, one could almost wish that it had been devoted to Ottoman art alone: there is so much of interest and beauty to be seen. It is an art that manages to combine eclecticism with complete individuality. It is rich and exuberant but capable of elegant and delicate, and for all its splendour, never vulgar, for all its splendour, never vulgar. Free sculpture of the nineteenth century. Free sculpture of the nineteenth century. Free sculpture of the nineteenth century.

There was an element of sheer luck in it. A quite minor technical change to the U-boat Enigma in February 1942 ruined everything for the Allies for nearly a year – just because it made the process 26 times harder. While it did so, sinkings of Allied ships approached disaster levels. Other quite simple changes in the Enigma; or in its use, could easily have produced a two, three, four year problem. Given the critical situation of 1943, it is hard to see that even major redeployment of Allied air and naval resources to convey protection could have made up for the difference between night and day that the resumed Enigma decryption in fact provided.

The value of secret intelligence in general remains in doubt but in the specifics of the Atlantic, where Allied control was a precondition for the opening of the Second Front, a flow of reliable information was of crucial importance. So, in turn, were critical technical steps taken by a small number of individuals.

Of course it would be quite wrong to put all the emphasis on such individual moments. Quite apart from the fact that it all rested on the uncomprehending service of thousands of people like McEwan's "Cathy", the point about Bletchley was that the influx of new young people from the universities

The enigma who cracked the code

Andrew Hodges on the little known computer pioneer Alan Turing

Ian McEwan's *The Imitation Game* is one of the most interesting and highly praised television plays of recent years, first shown in April 1980. A feminist play, set in the Britain of 1940, it is of the general kind of work that set out to retrieve history from its definition and interpretation by those who live "upstairs".

On the other hand, it is distinctive in setting its worm's-eye-view drama not merely within the Second World War (a bastion of male-defined history), but at the heart, or brain, of British operations. It is placed in the Bletchley Park of 1940, when "real" history is being made – by men – in breaking the Enigma ciphers. But McEwan wants to say, through the hero-victim Cathy, that the greater secret lies in male sexual pride, as Cathy finds to her cost when she penetrates and wounds it. She becomes a danger to "security" because of what she knows, and is put away.

McEwan's new film, *The Ploughman's Lunch*, treats the retrieval, or rather the falsification, of history more explicitly; its very title is explained as the commercial invention of an ale-and-cheese Merrie England.

The title of *The Ploughman's Lunch* is explained as a bit of fact, rather than fiction, within the film; it is not made clear that so is that of *The Imitation Game*. For this phrase alludes to the very real ideas of the real person Alan Turing, the English mathematician who lived from 1912 to 1954, and who as "Turner" is half-represented in the play as the man whose pride is wounded.

Alan Turing died in 1954, but his problems certainly did not, and it was only in the later 1970s that it became possible to see who he was and what he did.

In one way at least this is literally true. The "Ultra secret" of the broken German codes was kept not only from Germans but from everyone else for nearly 30 years after the war ended. So until 1974 no one said anything about what Turing had done, let alone his status as the central scientific figure of the British cryptanalytic effort.

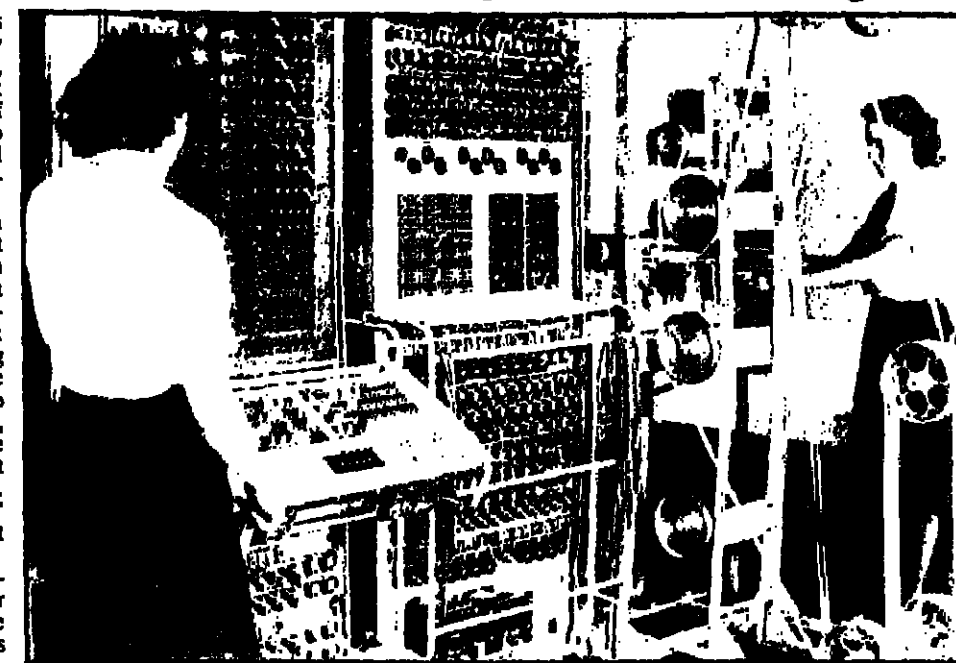
So late a revelation has inevitably given a false impression of the significance of that effort. It cannot help but be seen as a spiky addendum to the "real" war of strategy and soldiery. The mysterious, eccentric atmosphere wonderfully evoked by *The Imitation Game* may also have lent itself to such a view. But the decrypts produced at Bletchley were no less than the information base on which the "real" war, at least the western war, was conducted.

The clearest case is that of the sea war, which in fact was Turing's special province. Until the break into naval Enigma was made in 1941, and then again when it was lost in 1942, the Atlantic was a blank. But Enigma decryption handed to the Navy a daily newspaper's worth of current position reports and operational orders from the other side.

There was an element of sheer luck in it. A quite minor technical change to the U-boat Enigma in February 1942 ruined everything for the Allies for nearly a year – just because it made the process 26 times harder. While it did so, sinkings of Allied ships approached disaster levels. Other quite simple changes in the Enigma; or in its use, could easily have produced a two, three, four year problem. Given the critical situation of 1943, it is hard to see that even major redeployment of Allied air and naval resources to convey protection could have made up for the difference between night and day that the resumed Enigma decryption in fact provided.

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The 'Colossus' machine: part of Britain's code-breaking effort

suddenly brought cryptanalysis into the twentieth century. In particular, it brought in scientific method for the first time.

Turing made a joke of this and gave to one rather old-fashioned process the ironic name of ROMSING – a reference to that progressive call for the Resources of Modern Science. But nevertheless, it reflected a simple truth, and Alan Turing's development of a modern theory of statistics for use on the Enigma and other problems was central to the success. This was not magic; it was more like correcting the time warp in which the pre-war establishment had been stuck.

In October 1941 Turing headed the signatories on a desperate letter to Churchill pleading for priorities and resources – a letter not only written over the head of Commander Dennison, who was supposed to be running the organization, but which conspicuously omitted to mention him.

Turing was particularly noted for his disregard, contempt even, for Service and Civil Service formalism. This is not to say that contempt was the most effective means of inducing the dramatic changes required in 1940/42, but that radicalism of his approach, the counterpart of something more easily praised as "originality" in his open scientific work, was still an essential component in what happened to this country in that period, and perhaps therefore to making modern Britain possible at all. And if we put aside the McEwanite reservation that the struggle between the "new men" and the old men was, after all, still all about male control, we have a high-pitched example of that barrier-breaking and muck-in that those who ask what went wrong after 1945, are inclined to feel was going the right way before 1945.

As far as so many others only warfare allowed his skills to find effective expression. And he shared in the great British irony, that the period of standing alone was of such advantage to the power of the United States. Turing had a particular role in implementing the Grand Alliance, where there was a marked element of conflict as American ambitions overtook British resources. Turing's visit to America in the winter of 1942/43, was, as with the transfer of radar and atomic knowledge, part of the bargain that Churchill struck, and the origin of a most enigmatic area of the post-war Special Relationship.

People often ask why, given this amazing flow of information from the horse's mouth, the war could not be ended sooner. The standard response is that it did end sooner than anyone had the right to expect. But there is another question less often asked about Bletchley Park: if the British intelligence could work such marvels so rapidly in those years, why do we not see the same talents working wonders in the aftermath? Again, one answer is that we can; there may well be other examples, but the one relevant to Turing is in the independent British development of the modern electronic

digital computer. It should be explained that although there were very impressive electronic machines at Bletchley by 1944, there was never one with the "universal" property of the computer. That is, nothing had the property now so easily taken for granted, that the hardware can be left untouched, and only the program changed.

But this was what Turing took on as soon as the war ended. By the turn of 1945 he had produced a proposal which was indeed rapidly accepted by the National Physical Laboratory (NPL). At that point it was the most advanced such proposal in the world, incorporating not only a clear exposition of the purely mathematical fields opened up by the Turing machine, but a detailed logical design, the specification of electronic components, a concept of programming and of programming languages.

In 1941, it also had that personal drive behind it: he simply wanted to set about constructing it as cheaply and quickly as possible, much as things had been done at Bletchley, within months rather than years. Yet by May 1948 not a single component had been assembled, and Turing resigned. They had written plenty of programs, but had not even the ghost of a machine. What went wrong, then, after 1945?

It was a depressing story of how considerations of rank, age, class, professional demarcation lines, and everything else that Turing had been allowed to sweep aside in 1941, all turned out to count for more than what was officially supposed to be a project of immense national importance, of getting a first-class brain built before the Americans did. Probably the NPL was particularly bureaucratic, and indeed the later university projects at Cambridge and Manchester were more effective. Turing, of course, was by no means the ideal diplomat. Nor, actually, was all to be lost; after Turing left the NPL some changes were made, a freer structure allowed, and a scaled-down version of Turing's computer plan, the Pilot ACE, emerged in 1950. But this was only a shadow of the vision of 1945, in which Turing had tried to carry over the victory of scientific intelligence into the post-war world.

It is a remarkable fact that the would-be-become national computer remained almost as secret as Bletchley Park. Turing's design was not mentioned in the biographical memoir that he received as a Fellow of the Royal Society, and was not seriously reviewed until 1975. It may possibly be published in 1984 – an appropriate year for retrieving a forgotten piece of history, the more so, as government has caught on to "information technology" some 40 years later.

On the other hand, it would not be right to celebrate Turing's computer as a great beheading of swords into ploughshares, or even ploughman's lunches. It could have been, if government policy had pushed it that way. But there was no such policy; no policy at all, and in the vacuum it was largely the military departments who had an eye for the future. Not very much had changed in 1945.

Turing never got anywhere experimentally – he moved to Manchester

By this point mathematicians should be murmuring at his failure to discuss what Turing himself would certainly have seen as his greatest work. This is the concept of the "Turing machine", with which he answered a deep problem about mathematics in 1936, before he was 24. The Turing machine supplied a precise formulation of what was to be meant by a "rule" or "procedure", and Turing was able to show, using this definition, that there could be no general rule for the solution of all mathematical problems. But he saw this aspect of the foundations of mathematics as just one application of, rather than the purpose of, the Turing machine idea. His own comment on the purely mathematical fields opened up by the Turing machine was fairly limited; his strength lay more in bridging the gap between logic and the material world.

First, Turing showed in 1936, in the course of his great paper, that although there were infinitely many possible Turing machines, the operations of any and all of them could be simulated by just one, the "universal" Turing machine. But this was essentially the idea of the computer, able to play out any of an infinite variety of possible programs, and this was why Turing was able to throw himself so quickly into building such a machine in 1945, once world events had allowed him to acquire a practical knowledge of electronic engineering.

Second, the Turing machine was an important idea in pure science, as opposed to pure mathematics. In the sense that it set up a new framework, a new level of abstraction for the description of the world. Many people would claim now that it is as important a framework as that of physics. And Turing's own claim, made in outline in 1936 and then more and more trenchantly as time went on, was that this level is the right level for the discussion of all mental operations.

Correspondingly, his own interest in computers was not in calculations for weaponry, but in what he called "intelligent machinery". His best-known discussion of the Turing machine framework as a model for the mind was given in an article in *Mind* (1950). This is famous for starting off, in a style very unlike most of the ponderous contributions to that journal, with a rather *rigid* "imitation game", proposed as an operational definition of what is to be meant by "intelligence".

These ideas had been discussed long before at Bletchley Park; so that Ian McEwan, in attributing a quotation from this famous paper and putting it into the mouth of "Turner", is not being as false to 1940 as might be thought. On the other hand, both Turing's general thesis, and his more technical discussion of the various possible approaches that could be made to the construction of actual "intelligent machinery", are still highly relevant to the late twentieth century.

Turing never got anywhere experimentally – he moved to Manchester in 1948 and enjoyed the use of the computer developed there, but of course this was like a slow, unwieldy version of a little home computer of today, and although useful for the British atomic bomb, had neither the scale nor speed required for his ambitions. Instead he turned to a new field in theoretical biology, the mathematical modelling of animal and plant growth, into which he injected some powerful new ideas.

One of the many ironies of Turing's life is that soon after writing the *Mind* paper, in which he cast himself as the Galileo of a new science, he was actually on trial himself. It was not, of course, for religious heresy – but for sexual heresy. The police found out about his liaison with a young working-class man in February 1952, and they both went to trial in March. Turing had to undergo chemical castration to avoid imprisonment, but this was only one aspect of what happened.

It also pitched him into that Cold War period when homosexuality was being defined as a prime "security risk", with special pressures coming from the United States. Given Turing's wartime position, his 1942 entry into American secrets, and his post-war work for GCHQ, this was not a convenient state of affairs for anyone. But it was the more dramatic in that Turing refused to go through even token motions of repentance and conformity – until, that is, he killed himself, biting into an apple soaked in cyanide in June 1954.

The true tragedy leaves me with a bone to pick with Ian McEwan. For he has "Turner", in his play, to find himself impotent with Cathy, and then channel his anger by victimizing her for peeping at "The Ultra secret" in his room. I also believe that he was showing us the figure of a repressed homosexual, living a lie before and after the attempted act.

The real Turing, whatever his other faults, was particularly honest as a homosexual, and McEwan makes an unfortunate mixing of fact and fiction.

Unfortunately, furthermore, because it subtracts from a powerful claim that even "nice" men, civilized men, form part of the workings of patriarchy. Almost any other situation would have made a better illustration of a general thesis. On the other hand, *The Imitation Game* did reveal that even "nice" war, civilized war, has its victims; machine intelligence, however, is the product of a repressed thought, is liable to be realized as aggressively "male" intelligence, military intelligence.

The dramatist is free to express a greater truth without worrying about what actually happened. The biographer, though, retains the advantage of knowing that, in this case at least, truth is much stranger than fiction.

The author, formerly a mathematician at King's College London, is a specialist in "inviter theory". His biography, *Alan Turing: The Enigma*, will be published in October by Bantam Books.

Alan Mathison Turing was born in London on June 23, 1912. Educated at Sherborne and King's, Cambridge, he became an ill-fitting and untutored Cambridge don in 1935. During the war, he was with the Foreign Office and immediately afterwards, the National Physical Laboratory. In 1948 he became reader in mathematics at Manchester University. When he died in 1954, his contribution to Britain's war effort still went unrecognized; his interests outside his academic work were those of a thoughtful solitary – chess, gardening, long-distance running.

The hard-boiled film

It's a media cliché that bad novels make good films. Sadly the reverse often holds as well. Hollywood has displayed an irritating tendency to abstract the most banal and trivial themes from great novels; Joan Didion describes movie moguls on the set of *The Great Gatsby* admitting ignorance of "the basic material" and quoting from a sketchy four-page "treatment" which made a nonsense of Fitzgerald's text.

To coincide with a recent season of Hollywood adaptations at the National Film Theatre, Zomba Books have reissued three omnibus volumes of thrillers by Cornell Woolrich, Jim Thompson and David Goodis, who along with James M. Cain (also featured in the ten-minute eggs of the hard-boiled school beloved of film-makers).

Adaptation is always a complex business and with film noir the storm of critical attention in the 1960s and 70s only muddled the pool. Typically French concerns – identity, violence, community; the apparatus of existentialism – found a grass roots expression in the American popular thrillers of the 1930s and 40s and much of the serious interest in pulp fiction and gangster

movies stemmed from France, where the elevation of kitsch is a useful stand-by for critics and academics. In turn, Truffaut, Bernard Tavernier and Jean-Jacques Beineix have shown a fascination for the pulps, adapting work by Goodis, Thompson and Woolrich for the screen.

The crucial question regarding adaptation is to what extent film and fictional narrative answer the same needs and explore the same concerns. If they don't, "faithfulness" to the original is irrelevant. The auteur director, like Hitchcock (who filmed Woolrich's *Rear Window*) or Peckinpah (who wallowed in Thompson's nasty *The Getaway*), is likely to make free with his sources anyway.

David Goodis's *Dark Passage* is less well-known or highly regarded than the Bogart/Bacall film directed by Delmer Daves: the story of a man wrongly condemned, who escapes, is helped by strangers, acquires a new identity and finally proves his innocence. For all Daves' bravado, his subjective effects and interior monologue (largely to avoid showing Bogart's face until the plastic surgeon does his work), the film is curiously characterless, in both senses.

Film texts and fiction texts make different demands on their material. Obsession with "the original" tends to obscure the curious symbiotic relationship that exists between different media. In Daves's *Dark Passage*, we concentrate on things – ascetics, scraps, clothes – not people. The novel – Goodis's novel and the genre as a whole – humanizes; film reifies; Robbe-Grillet has tried to make the novel of film's work and has failed. Endings will be different because film resolves, fiction dissolves; Goodis detected the upbeat ending of Daves's film. Film is the abstract medium, though denser, more intimate, less ironic, than the novel; fiction is opened where film is closed, contains the film *Gatsby* was about, rings and cars; Alan Ladd and, later, Robert Redford were comments on Fitzgerald's myth, not expressions of his character.

Brian Morton

The omnibus editions of novels by Goodis, Thompson, and Woolrich are published under the series title "Black Box Thrillers" by Zomba Books at £5.95 each.

Events

- To August 28: Salisbury Centre, University of East Anglia. *Treasures from Norfolk Churches*.
- To August 28: Mapple Gallery, Sheffield. *Landscape in Britain 1850-1950*. Much isolated exhibition which originated at the Hayward Gallery in London.
- To September 2: Goshie Institute, London. Dada Scholarship holders.
- To September 4: Cartwright Hall, Bradford. *Art: the story of the Artists International Association 1925-1935*.
- To September 10: John Hansard Gallery, University of Southampton. *Autumn to Topsy*.
- To September 10: Whitworth Art Gallery, University of Manchester. *Great American Prints: Whistler to Warhol*.
- To September 16: Museum of Modern Art, Oxford. *Tolly Colbold Eastern Arts*. Fourth National Exhibition.
- To September 26: Art Gallery and Museum, Exeter. *The Works of Theodor Kutzer*.
- To October 2: National Gallery of Scotland, Edinburgh. *Robert Scott Lauder's Master Class: McTaggart, Ormerod, Penikese and their Edinburgh contemporaries*.
- To October 4: Museum and Art Gallery, Birmingham. *Paintings by the work of Landscape painter David Cox*.
- To November 14: Yorkshire Sculpture Park, Bradford. *Art and the Environment*.

"The Leron Farmer" by Richard Ziegler (born 1891) from his exhibition "The Berlin Twenties" at the Leron Museum.

Sir Steven Runciman

MILESTONES

Eugene Kamenka chooses Ludwig Feuerbach's *The Essence of Christianity*

Religion is not congenial to me. I was reared an atheist by Russian Jewish parents whose parents, in turn, had been at least agnostics. My experience with Christians has been almost wholly bad. My experience with orthodox Jews and Muslims has not been much better. They are at their best when they have no power and are shaped by other, non-religious traditions. There was a narrowness of spirit, an unsuspiciousness in the service of the divine and a remarkable lack of charity in dealing with opponents that characterized all the leading defenders of religion in the period of my youth, when people still thought that man should serve God and not vice versa.

Submission, the surrender of judgment for the hope of comfort and consolation, I suppose, was what critical intellectuals of my generation—or at least those I was willing to talk to and cherish as friends—despised most. We were liberated, or thought we were liberated, by Freud, Marx and Feuerbach. The Soviet Union and the scandalous behaviour of Communist parties throughout the world had shown Marx to be a tricky guide, so Freud and Feuerbach became less equivocal objects of our admiration. In Australia, where I was growing up, in a wartime but still strikingly sheltered, comparatively prosperous and fairly egalitarian society, the class struggle was in any case remote and abstract, while sexual and religious censorship and repression were, in the wider society we lived in, pervasive and real. Culture, as Matthew Arnold had said, required getting yourself out of the way.

Autobiographically, I came to Ludwig Feuerbach in high school, through George Eliot and her magnificent translation of *The Essence of Christianity*. I appreciated, even then, the point that nations have different gods because they have different cultures, that we create god in our own idealized image and that each nation scoffs at the gods of others because they do not correspond to its needs. But I was more excited at that time by the critical, historical and sociological treatment of the Old Testament (a great book that should not be excluded from our secular education) at the hands of the Rationalist Press. I admired, and shared their spray correct contempt for the mushiness, lack of intellectual vigour or cultural perceptiveness of the New Testament, even in the Authorized Version, let alone now, when it offers instant redemption without linguistic effort or immersion in a historical tradition.

Ludwig Feuerbach, on whom I have since written a book not admired by those who worship either God or Feuerbach, was not a great philosopher. He was a remarkably perceptive and imaginative man who believed that philosophy should awaken thought instead of constraining it. He saw himself as a liberator and not as a constraint. He was a man who wanted to leave his idols and their dogmatic manuals and to follow him into a new, secular, democratic, scientific culture. There neither God nor reason would be treated as kings standing above the world, creating it out of their own unempirical substance and will. Feuerbach was also a man who consistently fulfilled his own intellectual history and traced it in his thinking the correct and necessary development of all thought. My fellow philosophers and I began to read Feuerbach very seriously indeed. I do not yet regard Feuerbach as one of the great seminal figures of the modern age.

Feuerbach as I have written since, was a very kind, unassuming, unpretentious man who was capable of great insight and logical sentences he had an original and imaginative mind, he was

loose, careless, unsystematic and could confuse or gloss over problems in the most shameless way.

Yet, his thought and his confusions dominate our age much as his *Essence of Christianity* dominated European intellectual life in Germany from 1841-1848 and in Russia and to a lesser extent in France a little later. In our modern insistence that the state, religion, law and science have no function but to "serve man", that they are human creations that must never be allowed to react back on man and dominate him, we are Feuerbachians all, sharing both his hopes and his illusions, his intellectual virtues and his defects. "Modern" religion itself has proved Feuerbach right in his analysis of the historical trend: it has retreated from the "otherness" of God to the god who lives in us, with us and for us, whose real meaning is a conception of man. Between those two poles, religions are irrevocably doomed to vacillate.

The Essence of Christianity has to be read, as it was not in its own time, not only sympathetically, but perceptively and critically. Its fundamental theme that religion is a dream, a fantasy-picture, which expresses man's situation and at the same time provides a fantasy-gratification of man's wish to overcome that situation is of central intellectual importance to the genuine study of religion. Its recognition that religion is primarily practical rather than theoretical, an "art of life", not only a template of reality but a template for dealing with reality, is of equal and also wider importance; it shows that Marx was wrong in accusing Feuerbach of being a "passive" materialist. On the contrary, Feuerbach correctly saw knowledge as a practical activity, as a grappling with reality in which we select and order and seek to satisfy our wants. In his later life, he was not imperceptive in seeing morality as similarly practical, as expressing a wish that people behave in certain ways in principle possible to people generally, but proclaimed for them regardless of their situation and law as seeking to abolish (by hanging) the culprit so as to make its wishes into reality.

Feuerbach may, indeed he does, confuse or fail to separate his cognitive and his emotive accounts of religion and of human fantasies generally. But in relating the one to the other, he made possible the great achievements of the modern age—the empirical, historical and sociological understanding of religion and of other human constructions and the important insight that knowledge is a form of striving.

He was right in his view that man ceases to feel helpless in a particular field that field ceases to be of concern to religion. Thus, as man has conquered nature but has failed to "conquer" his own society and its potentialities for the exercise of destructive power, religion has moved towards more into social concerns. As man's feeling of helplessness is before, evil rather than before, evil and lightness, religion comes to be interpreted as primarily moral, in advanced industrial and post-industrial societies it (significantly) still is not in the villages of Mexico and southern Italy.

Feuerbach's message took 100 years to percolate and it has called, and will call, forth fundamentalist counter-reactions, the feeling that total submission to God's "otherness" is the only consistent reply to Feuerbach. But his thought was and remains a milestone even if the tortuous path of human development and regression on which it stands is not the highest to the human self-determination and overcoming of alienation. In the society of love he hoped for.

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Britons take a Meister class

Is Britain lagging behind Europe in vocational training? A Further Education Staff College survey examined the West German solution.

The Further Education Staff College has undertaken a series of studies of vocational education and training over the last three years in the Federal Republic of Germany. Nine groups of "experts" have examined in depth and reported on specific aspects of provision, past the compulsory school-leaving age with particular reference to the apprenticeship structure. Each expert was chosen to represent both him or her self and a national UK body. Each group undertook an extensive briefing and debriefing session before and after its visit. The studies were designed to encompass all eleven Länder and for each specialist group to embrace a comprehensive range of local, regional and national institutions.

The specific areas under scrutiny included: measures to deal with youth unemployment; vocational counselling and guidance; apprenticeship experiments; the role of the industrial tutor; training in business studies and languages; the education and training of young handicapped adults; and catering and training for the hotel and catering industry. In March three groups separately examined post-apprenticeship career opportunities in business studies, engineering and the hotel and catering industry.

One needs to make a whole series of caveats on the difficulty of comparative comment across systems, particularly taking into account historical and cultural differences. However, it does seem to us that there is a place and indeed a need to take the risk of moving to more reflective, if risky, discussion on the differences between Federal Republic and United Kingdom provision.

Most recommendations for the United Kingdom systems for anywhere outside are discounted on the basis that it is all very well to look at the advantages (and indeed the disadvantages) of other systems. But here we start from a different perspective, a different structure, and while it would be useful to start from somewhere else than where we are, in fact we start from here and now of the UK in 1983. If we are to start afresh this must be the right time to do so. If ever there was turbulence, change and the possibility of major restructuring, it is in the next German system are geared towards shaping the UK education and training systems within a limited period and within the opportunity window provided by discontinuity.

The FDR's secondary system is split among the secondary modern, technical and grammar equivalents, not dissimilar to the English post-1944 recommendations. It is the characteristics of the "dual system" for apprenticeship that catch the UK politician's eye. German schools at the minimum leaving age gain apprenticeship contracts. Compulsory day release exists until 18 in all 11 Länder. Apprentices spend four days of in-firm training on curricula agreed centrally and controlled by the central government. There are 460 trade areas in 13 broad categories. Last year only 15 per cent of school-leavers, at 16, had to undertake vocational preparation courses which are themselves tied to the dual system and which generally lead on to apprenticeships.

There is little similarity with the Managerial Services Commission's Youth Training Scheme which is geared to training rather than relative to small youth unemployment. The Federal Republic also has a sophisticated division between apprenticeship training for large-scale industry and commerce and for the training of qualified workers within small firms and craft areas. The apprenticeship



structure provides training skills and status across much wider ranges of trades, abilities and of the population than in the UK.

The routes into further training and qualifications for career development still require several years at work. One may choose either a full-time two-year technician route or the more important alternative, which is the *Meister* level or master craft worker.

This latter route is the engine of the German training and industrial systems. Here only, after apprenticeship and industrial experience plus further training and examinations, is one capable of operating at superior specialist level, as a supervisor, as a trainer in schools or in industry, or as an employer or entrepreneur.

One must always remember that the technician and *Meister* levels are based firmly on the apprenticeship structure which is the prerequisite for what follows and this prerequisite involves: industrial commitment of employers and employees to training; legislation and regulations laying down common curricula across the whole country for in-firm training; local industry involvement in testing standards; cooperation between public sector schools and private sector training; the creation of a qualification linking the right to be an employer and the right to be an in-firm trainer.

However, the Federal Republic is not a utopian ideal and all is not goodness and light. In the business studies area, two study groups found content and method not up to the excitement and innovation of the UK scene. They found this a more difficult and less developed area than, for example, industry training in Germany. There are *Meister* equivalents but no *Meisters* on the business studies scene and consequently training is less carefully monitored and controlled.

Business studies in terms of coordinating structures has been developing in West Germany only since 1973. On the business studies and post-experience level, the career development from the opportunities offered by in-firm training, by the chambers of commerce, or by the *Land*-based schools system are firmly difficult to penetrate and compare. The situation is much more akin to the jungle of UK provision, legitimized in both systems by the term "flexibility".

If we look at three stages in the German systems—secondary, the dual system, the post-experience career development provision—it is the dual system to which the Germans give the greatest weight, indeed fervour. In both the secondary and the dual systems there is an implied social contract. The Germans have a relatively low level of social mobility compared with the UK, but in entering apprenticeship from the secondary sector they trade this lack of mobility against relative security, relative status and relatively high earnings.

The dual system is a product of political cooperation towards specific ends. In framing regulations and detailed curricula there has to be political agreement among central government, the *Länder*, employers, the unions, as to what, eventually, the outcomes will be. Very often these are impossible but there is sufficient measure of agreement to move forward to a detailed curriculum and for everyone to be pointing in a similar direction.

Structure and content are agreed by very complex mechanisms, but having been agreed and the movement forward having occurred there is no requirement for elaborate assessment mechanisms, or to go beyond asking

local industry and commerce to test standards of particular students.

Separation between *Land* and industry provision is regarded as the source of flexibility, accordingly providing both for the need for forward planning on the part of the individual. That is, the *Land* provides a separate career development opportunity for individuals through the *Fachschule*, where the individual who wishes for upward career mobility can leave his or her firm and take a two-year full-time course for technician and business technical equivalent qualifications.

In-firm training provided by industry or equivalent qualifications to those of the *Fachschule* provided part-time by the chambers of commerce, are much more specifically geared to industrial and commercial needs than to the requirements for mobility of the individual. This complementarity is the polar opposite to the justification for the dual system where, to some extent, the freedom of the individual is contained within the need for positive achievements at craft level. That is, status in society, skilled manpower and an agreed structure to achieve them.

This common link existing at the post-experience level is that until this year those in employment returning for further qualifications were entitled to a grant of up to 90 per cent of their earnings. This year this has switched to a loan system, the effects of which are still uncertain.

What are the implications of all this for the UK? The West Germans have relatively conservative education and training systems. Content and method from secondary to further sectors seem well behind English experiment and development. They do have structures which support an integrated approach to basic training between and among the various factors in society. Coherence and coherence plus industrial commitment seem more critical than any other factor. In the UK the MSCs as yet a symptom rather than a cause of change but does provide evidence of an opportunity for restructuring our own systems.

While the heart of the German training system can be traced back to a medieval root, it is the will to make the structural work, the will to cooperate and relate the various parts of the system that seem critical.

The implication, however crude, is that the discontinuity provided by the material collapse of Germany after the Second World War created the motivation either to make existing structures work or to mould them in such a way that they were more likely to work in terms of cooperation rather than conflict or the containing of conflict within structures with perceptive of imponderables as to where the will to operate comes from rather than a reality. However, most of the visiting experts over the three years tend to agree that there is, now, a discontinuity or a potential discontinuity in the UK potential discontinuity is possible. But where restructuring is possible, it is structure alone is not the answer. It is the intangibles of motivation and will that the desire to make things work that is at the heart of the differences between West Germany and the UK.

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by Alan Ryan

Animals and Why They Matter: a Journey around the species barrier by Mary Midgley Penguin, £1.95 ISBN 0 14 022386 X

The moral status of animals has always presented philosophers with a good many problems; too many of the explanations of our duties to other human beings, and too many explanations of the rights human beings have against one another seem to leave animals without any sort of moral standing at all. And yet very few people suppose that it is of absolutely no importance whether an animal is healthy or in pain, free or caged, at risk only from its natural enemies or subject to the torments of bear-baiters, vivisectionists or thoughtless children. Common sense suggests that it is the sentence of the animal which gives it some sort of moral standing; the strange thing is how many philosophers have disagreed.

Bentham was one of the few philosophers who was firmly on what Mrs Midgley regards as the right side. Comparing ill-treatment of animals and slaves, he wrote:

The French have already discovered that the blackness of the skin is no reason why a human being should be abandoned without redress to the caprice of a tormentor. It may one day come to be recognized that the number of legs, the villosity of the skin, or the termination of the os sacrum, [Bentham's roundabout way of referring to fur and tail] are reasons equally insufficient for abandoning a sensitive being to the same fate. What else is it that should trace the insuperable line? Is it the faculty of reason, or perhaps the faculty of discourse? But a full-grown horse or dog is beyond comparison a more rational, as well as a more conversable animal than an infant of a day or a week or even a month, old. But suppose they were otherwise, what would it avail? The question is not, Can they reason? nor, Can they talk? but Can they suffer?

The point of Mary Midgley's short book is to explore the discomfort which many philosophers feel in face of the claim that animals have rights against us. This discomfort she traces, quite correctly, to the prevalence of social contract thinking. On the contractarian picture of morality, moral rights are the claims which people can make against each other under the terms of an implicit contract—not even philosophers suppose that human society actually started when rational, independent, and articulate creatures sat down together to work out the terms on which social life was to operate thereafter. Creatures which are not rational and articulate cannot be supposed to have entered into a contract with us, and therefore cannot be supposed to have rights against us.

This view comes in two versions. The extreme one, which leaves Mary Midgley more or less speechless—quite rightly, since one of its vices is that it presents no arguments on its own behalf and leaves the opponent with nothing to speak against—is the view that the irrational brute creation is the object of no moral concern at all. This unlovely view is associated with Descartes and Spinoza; Mrs Midgley tackles it by simply drawing attention to such obvious but important facts as the differences between animals and machines. You might complain that a clumsy driver is ill-treating the clutch of the car he drives; but that is very different from the ill-treatment which a brutal wagoner mokes out to the horse or ox pulling his wagon. Animals evidently do feel pain, and machines evidently don't; only a highly educated philosopher could do anything so foolish as ignore the distinction.

In our own day, writers who don't (as Descartes did) suppose that it's perfectly all right to do absolutely anything to an animal for the sake of a human interest no matter how trivial, still give a misleading picture of our duties to animals. Thus, John Rawls, that none nobody could be more humane, says, that, we do not have

duties of justice to animals. Certainly we should treat them as humanely as possible; what we cannot do is act either justly or unjustly towards them, since they are not in the appropriate sort of contractual moral community with us. To which Mrs Midgley replies, that even if we mean to say "Of course, you must treat animals decently; it's only justice that you can neither give them nor deny them", what we will be heard as saying is that there's no such thing as treating animals unjustly—while every parent knows that one of the things children have to be told a good deal is precisely that it's not fair to treat them as if they existed only when their owners took an interest in them.

The argument is generalizable, and is generalized, to rights of all sorts; writers who insist on the exercise of reason as the precondition for the exercise of rights are stuck with having to deny rights to animals—and to babies, the mentally ill and the temporarily comatose. Better surely to say that what is behind a right is an important long-term interest which needs protection. An animal does not, pace Rousseau, need to have the sort of self-consciousness which allows it to contemplate its own extinction before we can talk of its having a right to life or liberty. All it needs is to be so constructed that it suffers acutely if its liberty is removed or its life endangered.

No doubt, certain sorts of security aren't needed by animals in the way they are needed by human beings. This suggests that it is compatible with treating animals decently that we should also eat them for food, a proposition which was well defended by Bentham, and which appears—though it is not very definite about it—to be accepted by Mrs Midgley too. At all events, to argue that the moral status of animals is such that we may not eat them requires a good deal more than an insistence on the sort of sensible, utilitarian considerations which Mrs Midgley mostly appeals to.

But what is most attractive about the book is not its defence of humane common sense against philosophical theories of ethics which philosophers have spent a long time tying about their own throats. That is splendidly done, with a clarity and energy which will appeal to almost everyone who thinks that philosophers are habitually too clever by half; but the real triumph is the defence of good sense about the inner life of the non-language using animal.

There is an old philosophical tradition which holds that animals can neither have much in the way of memory nor anything in the way of real expectation because they lack the linguistic capacity to frame propositions about the past and future. To which Mrs Midgley replies that we all know better than that; it may not be possible for a dog to ruminate on the fact that "I am waiting for my master" is more or less equivalent in meaning to *J'attends mon maître*. That it expects its master is evident from the pleasure it evinces when he does turn up and the disappointment it evinces when someone else turns up in his place. To diminish the inner lives of the rest of creation in order to ease our consciences about riding roughshod over them is not much of an intellectual achievement.

But unlike many people—most notably Peter Singer, though the position is implicit in Bentham and Mill—Mrs Midgley does not commit herself to the view that all preference for one's own species is mere speciesism on a par with such other vices as sexism, racism and so on. The Singer slogan—much like Bentham's—is "equal suffering counts equally". Mrs Midgley doesn't exactly repudiate that view, but she certainly weakens its impact. On her account, there are, and are bound to be, ways in which we quite properly give creatures of our own kind a preference. It's not a failing but a virtue to look after your own family first when it's a matter of saving people from blazing buildings and the like; it is inconceivable that any animal species could have made it through the process of evolutionary selection unless some sort of disposition to favour one's kin was built in.

This means that there is a case for marked increase in cultural diversity (in so far as this can be reflected in the archaeological record) that has accompanied human progression.

At another level, however, *The Identity of Man* is disappointing as a synthetic approach to human identity. Although the book does begin with a review of human biological evolution, accompanied by perceptive comments on the emergence of cultural patterns, this gives way to the standard social anthropological concept of an "unbridgeable" gap between "man" and "animals" (which should read "other animals"). This telescoping of animal diversity into a conglomerate counterpart to human uniqueness is unfortunately characteristic of approaches which deny any real relevance of biological factors to modern human behaviour.

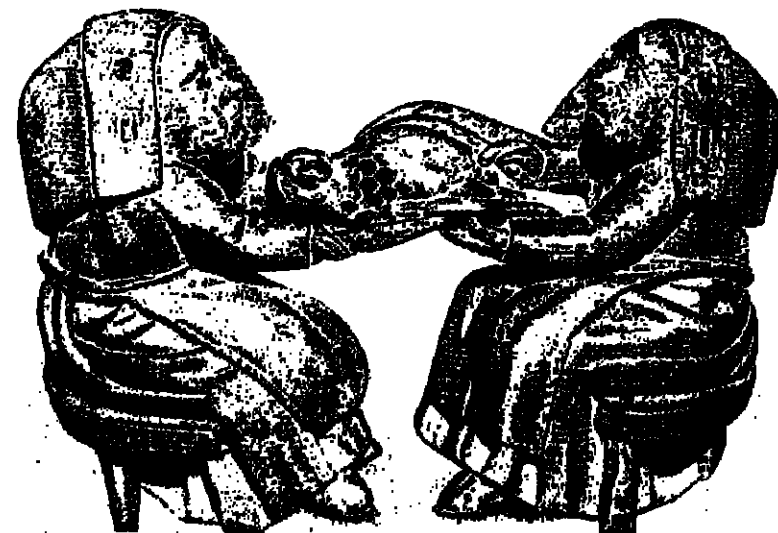
As it happens, the apparent magnitude of the gap between man and other animals is exaggerated by Clark's statement that man diverged from the apes thirty million years ago. Although there is continuing controversy over the regularity with which the ranker's own society emerged in first place.

The chapter dealing with the findings of ethnography is also noteworthy, as careful application of principles derived from the study of modern society to archaeological material—use of the "ethnographic parallel"—has done much to bring that material respectably to life. Indeed, it is one of the major contributions of modern social anthropology that it has dispelled the myth of ranking of human societies on a scale from "primitive" to "advanced", just as modern biological anthropology has shown the inadequacies of ranking living primate species in the same simplistic fashion.

The sweeping survey conducted in *The Identity of Man* is also useful in that it reveals more easily general trends which are quite often obscured by fascinating individual detail. One such general trend, to which Clark devotes an entire chapter, is the

BOOKS

Being fair to animals



A medieval manuscript shows two women preparing a bird. The picture is taken from Atlas of Medieval Europe by Donald Matthew (Phaidon, £17.50).

qualifying Singer's slogan about equal suffering counting equally by reminding ourselves that it isn't a question of its counting in some abstract way to the universe at large, but in a practical way to us. And if our moral life is such that with all our sensitivities properly in tune, the sufferings of other species don't count as much with us, that may be a fundamental fact about the moral life. But there's no question of Mrs Midgley employing this naturalistic approach as a device for letting us treat animals as badly as we sometimes feel inclined to, just because their species difference from us means we can't entirely make their sufferings our own. For, once again, she appeals to the experience of ethnologists and students of animal behaviour to show that in the wild, animal species can live in a friendly fashion with each other. In this, we might reasonably try to emulate them.

The one thing Mrs Midgley doesn't suggest is that the reason why animals matter is that they provide moral philosophy with some difficult cases

to grapple with. Mrs Midgley is clear that the reason why animals matter is in part that they matter to themselves. As to why that matters in general, she says in conclusion, it is very hard to say; nobody but a nihilist would deny it, but that's not the same thing as saying we know how to know that the nihilist is simply wrong. At any rate, *Animals and Why They Matter* is a splendid example of useful philosophical work—people who are, as many people are, muddled and unhappy about their views on vegetarianism, animal experimentation and the like will find themselves vastly enlightened and encouraged, and a very rare virtue in books on this sort of topic, they will find themselves argued with patiently and unaggressively. Among the animals to whom Mrs Midgley is unfailingly humane, those rational animals who make up her audience are, happily, included.

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tory principle for modern human behaviour, it is vital that an acceptable paradigm should be put in its place; and it is in this respect that *The Identity of Man* is most disappointing.

There is here no clearly stated and testable paradigm to provide an explanatory basis for the emergence and present dynamics of human cultural systems. Yet Clark does show, in his final chapter on "homogenization and dehumanization", that he believes in some guiding principles. Unfortunately, these rest in part on retention of the suspect ranking concept, with stratified (class) societies, for example, regarded as universally more advanced than "prehistoric peasant populations".

Clark deplores the apparent trend towards loss of cultural diversity on a global scale, but latches this admirable sentiment to the view that demolition of stratification is a particular society must lead to loss of excellence in its material products. His message seems to be that the clamour for the future is that a huge majority in each society should accept inferior status so that a small minority can have the means to maintain that society's cultural integrity.

As a personal viewpoint, this is debatable on its merits, but as a major principle it requires something more substantial than a notion of cultural progression from simple to stratified societies. Certain sociobiologists have been roundly criticized for implying an evolutionary determinism in human behaviour, but we can scarcely replace this with cultural determinism of a kind that does not even have an articulated paradigm to underpin it. As might so aptly have been said: "The only lesson to be learned from prehistory is that you cannot infer identity from diversity."

R. D. Martin

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BOOKS

From first principles

Macroeconomics by Wynne Godley and Francis Cripps
Oxford University Press and Fontana, £9.95 and £3.95
ISBN 0 19 215358 7 and 01 635943 4
Macroeconomics after Keynes: a reconsideration of the General Theory by Victoria Chick
Philip Allan, £20.00 and £9.95
ISBN 0 86003 021 0 and 02 12 5

Macroeconomics is a highly idiosyncratic book. Its declared aim is to "establish a logical framework for the analysis of macroeconomics which is coherent and simple enough to rise away some of the sheer confusion which surrounds the subject at present...". A primary difficulty, however, is that these "theoretical confusions" are not identified. There is not a single serious reference to the work of any other economist and the "conventional" macroeconomic problems - unemployment, inflation, the exchange-rate and so on - are hardly addressed at all. So the book should be seen not as an introduction to macroeconomics but rather as a kind of prolegomena to the study of macroeconomics.

The intention is to explore the extent to which logical (or supposed logical) considerations put limits on the kinds of macroeconomic models which are admissible. The success of the approach thus depends on two things: can it be shown that there is indeed a number of powerful "logical" constraints to be taken into account, and are they jointly sufficient to rule out macroeconomic models and propositions which would otherwise seem plausible? Godley and Cripps believe that there are and they do; I am less convinced.

The one "axiom" which is identified as crucial is that stock variables (principally stocks of financial assets and of inventories) will not change identically as rates of interest, flow variables (principally incomes and expenditures). There is some slight ambiguity about whether this really is an axiom applying to stock/flow "norms" or simply an empirical generalization. Perhaps it doesn't matter too much. Of course the behaviour of an economy in which stock/flow ratios are stable will be very much more circumscribed than one in which they are unstable. But this is scarcely a novel perception: macroeconomists will not change rates at all without some account of the behaviour of such things as capital/output ratios and wealth/income ratios. It is useful to have this emphasized as a general point rather than one specific to particular areas of theory, but the pay-off seems to me rather less than the authors might have hoped. It enables them to show that monetary and fiscal policies cannot be independently pursued, for example, but is singularly unhelpful in analysing the causes, as opposed to the consequences, of inflation.

The leading impression of *Macroeconomics* is of an attempt to reconstruct from first principles, and with an almost perverse refusal to take account of others' work, an entire approach to the subject. As I must declare a kind of interest. As a fresh graduate, I worked for Wynne Godley in the Treasury. Then, as now, such problem - no matter how ostensibly "familiar" - was treated as if it had never arisen before. As a learning (or "re-learning") experience, it was most useful, but it was also greatly illuminating. As a supplement to conventional introductions to macroeconomics for more thoughtful students, Godley and Cripps have a good deal to offer. But a second volume carrying this approach on (or down?) from abstract general discussion to specific macroeconomic problems and to existing analysis would promise very much more.

The title of Dr. Chick's book is misleading: the subtitle is not. This really, Hansen's old *Guide*, brought up to date. The theme is familiar:

"Keynesian" economics is not the economics of Keynes. The Leijonhufvud/Crowder reappraisals of the late 1960s are recalled - one surmises that Keynes's methods remain valid for a world of inflation, balance of payments problems and floating exchange-rates even though they were devised for, essentially, a closed economy with stable prices. That belief is undoubtedly correct, but the author (as she admits) offers little guidance to the student on how to apply Keynes's approach to modern problems.

On her chosen ground, Dr Chick is admirable. As a comprehensive *vide-mecum* through the *General Theory*, the book can hardly be faulted. The critique of the neo-classical synthesis is full and clear. But such hints as there are about a ge-

Plants worldwide

Multinational Enterprise and Economic Analysis by Richard E. Caves
Cambridge University Press, £20.00 and £7.50
ISBN 0 521 24990 2 and 27115 0

This is the latest in the Cambridge surveys of economic literature, which are designed to keep professional economists up to date in fields outside their own specialisms. They are also intended to be intelligible to advanced undergraduates. General readers with an interest in multinationals should be warned, however, that this is not a book for them; since its major aim is to fit the multinational company into a framework of economic theory.

The first two chapters look for a theoretical explanation of the existence of the multinational enterprise (MNE). The book then considers the process through which MNEs expand, and subsequent chapters examine the relation of MNEs to the degree of competition and concentration of firms in particular markets, and the effects of MNEs on income distribution, international capital flows and technology. Taxation issues and the operation of multinationals in less developed countries are given chapters of their own, though these topics appear often in other parts of the book too. Caves concludes with a discussion of public policy towards the companies.

Why do MNEs exist at all? In Caves, the analysis is taken in two stages. First, he explains in terms of industrial organization theory why *multinational* firms exist, irrespective of whether their various plants are located at home or abroad. Here the reason lies predominantly in the failure of market mechanisms to produce satisfactory results for the participants where "intangible assets" (such as special management skills or a new piece of technological knowledge) are to be traded. A firm with an intangible asset which potentially could produce very high returns if introduced into a new area of operation (such as an overseas market) could in principle sell or license (say) its technological process to another firm already (and perhaps exclusively) in the new area. The potential licensee, however, may not be willing to pay a high enough price - he may not know if the process is worth buying until he has been shown the details, but then he has the knowledge and does not need to pay for it. The first firm has an incentive to set up its own new plant, and transactions between the new plant and the parent company thus will be *internal* to the firm, and the market mechanism will have been replaced by an administrative one. "Market failure" appears primarily as an explanation for horizontal integration (where the different plants produce at the same stage of the production process, e.g. only a particular final consumer good) but vertical integration (plants producing at different stages, e.g. one mining iron ore and another making steel) also results from kinds of market failure. This occurs particularly when there are only a few potential participants so that the final user might fear he would have to pay an exorbitant price for his inputs.

The second strand of explanation concerns foreign investment: per se

uniquely Keynesian approach to new problems are not particularly helpful. There is, for example, a notably perfunctory and unconvincing passage on the connections between the nominal rate of inflation and the rate of inflation and a very scrappy chapter on "Policy in a Longer-Term Perspective". To ask for much more is, no doubt, to ask for the impossible - a new Keynes. Until then, we shall still have the problem of striking a balance in teaching between attention to the real Keynesian revolution in thinking and attention to the actual problem of macroeconomics in the 1980s. To the first of those, Dr Chick has made a valuable contribution.

M. J. C. Surrey

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(that is, why multinational firms have plants overseas). Standard international trade theory would explain the MNE as a capital arbitrage - an organization which moves investment funds from capital-abundant to capital-scarce areas. Yet most foreign investment, like much of world trade, takes place between industrial countries, all of which presumably have relatively abundant capital. Caves shows that newer trade models, where capital is assumed in the short run to be unable to move between industrial sectors but able to move between countries, can be adapted to provide a better explanation of his investment pattern.

From the chapters on MNE behaviour a wide range of interesting conclusions emerge. Multinationals are tending more and more to expand by taking-over existing firms overseas, and they prefer culturally familiar countries (for example, US firms like going to Canada, or Third World MNEs to countries where they have ethnic links). Exchange rate levels and tariffs also emerge as significant explanations of investment location. MNEs are usually found in industries where production is concentrated on a few firms and where there is high research and development expenditure, but their market power as potential new entrants to other industries means they are not a force necessarily making for high industrial concentration. It is less likely than often thought that they reduce labour income in their country of origin by exporting capital from it, because trade expansion (as more recent research, to have been surprisingly developed, The educational level of the population may well have been above that of England in the mid-1840s, land productivity was probably higher than in most of today's South East Asian countries, and some of the Shogunate's policies had deliberately fostered industrial development. Similarly misleading is the picture of an economy which grew extremely rapidly by international standards. Total output rose by 212-3 per cent per annum in the seventy years to 1940, not noticeably faster than the 3/2 per cent of North America or the 2-2/2 per cent of western Europe (excluding 1914-18).

Takafusa Nakamura, one of Japan's most distinguished economists, divides this story into two main periods - the early years, up to the First World War, of relatively slow but steady modernization, and the quarter century from 1915, which saw more rapid but also more uneven growth. Modern industry took off in those years, but agriculture was neglected; large-scale firms with long-term employment commitments and high wages flourished at the expense of smaller, and sub-contracting enterprises; income distribution worsened dramatically and the economy experienced pronounced cycles. From the relatively smooth, sectorally balanced, growth of the late nineteenth and early twentieth centuries, Japan moved into a phase of uneven development and, with it, of political turmoil.

The story unfolds almost chronologically with great coherence, extremely careful documentation and a wealth of statistical information (tables account for close to half of the book). What it lacks is historical sweep: some of the detail is fascinating and so are some of the arguments (the suggestion, for example, that Japan in the late nineteenth century imported not so much technology as technological organization - just the thing which the West is now trying to copy from Japan); but one feels, perhaps, the

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An updated and revised edition of *The Dictionary of Modern Economics* edited by David W. Pearce, was published last week by Macmillan Press at £17.95 and £5.95. The first edition was published in 1981.



Children explore "Futurama", Norman Bel Geddes's 1937 vision of how cities might look in 1960. The picture is taken from *American Design Ethics: a history of industrial design* by Arthur J. Pulos (MIT Press, £39.95).

Success story

Economic Growth in Prewar Japan by Takafusa Nakamura
Yale University Press, £30.00
ISBN 0 300 02451 7

It is often assumed that Japan's modern economic history is one long "miracle". The country has not only been the world's most successful economy since 1950, but it was similarly successful between 1870 and 1940, a period during which it rose from underdevelopment to the status of a major military and industrial power.

Yet Japan's prewar experience is much less exceptional than is commonly thought. The economy which the Meiji reformers inherited from the Tokugawa period has been shown by more recent research, to have been surprisingly developed. The educational level of the population may well have been above that of England in the mid-1840s, land productivity was probably higher than in most of today's South East Asian countries, and some of the Shogunate's policies had deliberately fostered industrial development. Similarly misleading is the picture of an economy which grew extremely rapidly by international standards. Total output rose by 212-3 per cent per annum in the seventy years to 1940, not noticeably faster than the 3/2 per cent of North America or the 2-2/2 per cent of western Europe (excluding 1914-18).

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absence of a unifying theme, or themes.

In particular, there are no major actors. Neither the military, nor the *zaibatsu*, nor the Government masterminded Japan's growth. Military developments were, of course, very important (Japan sent troops abroad on 10 occasions in the fifty years from 1895), but their influence on the economy was mixed. Defence expenditures were particularly high at the very beginning of the century and in the 1930s - growth was rapid in the latter period but below average in the former when the rising tax burden squeezed private consumption. And the years of most buoyant development (1914-19) were associated not with high military spending (since Japan's participation in the First World War was only marginal), but with strong demand for the country's exports.

Nor were the *zaibatsu* directly responsible either for controlling and steering the economy in one particular direction or for militarization (in fact, Nakamura argues that big business was sceptical about both the Russo-Japanese and the Pacific Wars, though presumably less so about the various Chinese and Manchurian expeditions). The *zaibatsu* were really powerful only in the 1920s when they concentrated financial capital and took over the highly profitable mining and commercial sectors. Their relative absence from manufacturing meant, however, that their strength diminished during the rapid industrialization of the 1930s.

The downgrading of the role of "monopoly capital and imperialism" is welcome. What is perhaps more surprising is the relatively scant attention paid to the role of economic policies. These were successful during the Matsukata deflation of the mid 1880s and the Takahashi, Keynesian-style, reflation of the early 1930s. Through the rest of the period, however, this book would appear to suggest that they played only a minor role. The industrial policies of the Meiji era are hardly mentioned; the purposefulness of government in trying to influence economic development seems ignored - yet Japanese governments, probably even more than those of France or Germany, constantly strove towards industrialization.

The preservation of classical texts was assured if and when they became set books in the schools. Homer was always a bestseller for the classroom. Many texts, however, survived almost by accident, as for example the manuscript of Archimedes defining the principles of hydrostatics, or the only full text of Aeschylus's *Agamemnon* preserved for the fourteenth-century scholar Demetrius Triclinius, whom Wilson calls "the first genuine critic produced by the Middle Ages". Manuscripts were prone to accidents; but Wilson rightly lays the blame for the most irreparable losses on the soldiers of the Fourth Crusade who found, or lost, their way to Constantinople in 1204. Yet it was in the aftermath of that disaster that Byzantine scholars, more

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BOOKS

The Greek heritage

Scholars of Byzantium by N. G. Wilson
Duckworth, £28.00 and £12.50
ISBN 0 7156 1705 2 and 1741 9

Byzantine scholars were, in having to transmit their thoughts and their literature in handwriting, the last of their kind in Europe. Constantine fell to the Turks just before the new technology of printing changed the world.

The first Greek printing press was not set up there until 1627 and it was quickly sabotaged by an unholy alliance of the Jesuits, who were jealous, and the Janissaries, who thought it was a secret weapon. The Byzantines of the fifteenth century would probably have been equally suspicious. They distrusted innovations. But not for nothing have they been called the librarians of the Middle Ages. They were always aware of their duty to preserve and to transmit to future generations the literary treasures of Greek antiquity.

Their tastes were not the same as ours. They preferred style to content in their literature. The Greek that they wrote was not their spoken tongue. It was that prescribed by grammarians of the late Roman Empire as being the purest Attic of the fifth century BC, an ossified form of the language drilled into them at their schools. One is reminded of the classical education imparted at many of our own public schools until quite recent years: the Byzantines would have admired the Victorian schoolmaster who commanded the *Oedipus Coloneus* of Sophocles to his class as "a veritable treasure-house of grammatical peculiarities". Dazzled by the brilliance of their classical heritage, even their brightest minds recoiled from original thought. The ancient Greeks had said it all. Only the revealed truths of Christianity could add to or correct the sum of Hellenic wisdom.

Here there was a problem, for the pagan writers of antiquity were often at variance with the Christian revelation. It was a problem that the Byzantines faced early and with admirable common sense. The way was shown in the fourth century by St Basil the Great in his address to the young on how to benefit from pagan literature without endangering their immortal souls. St Basil had, after all, studied at Athens, as had St Gregory of Nazianzus, a great favourite among Byzantine stylites. These were the highly educated fathers of the Church, who as Henri Grégoire observed, made Christianity "a gentleman's religion" acceptable to sophisticated intellectuals. Thereafter the Byzantine Church very rarely imposed a censorship, thus ensuring that classical Greek texts, however unpalatable their content, continued to be copied. The most awkward were the works of Plato and the neoplatonists. But it was usually permissible for Christians to read them provided that they did so for purely educational purposes, for style and not for substance. The greatest intellectual witch-hunt in Byzantium ended in the trial and excommunication of the philosopher John Italos in 1082. One of the charges against him was that he looked for truth and not simply for grammatical peculiarities in the foolish notions of the Hellenes. This was almost a unique case. The world must be eternally grateful that the Byzantine Church was as a rule so liberal and tolerant.

The preservation of classical texts was assured if and when they became set books in the schools. Homer was always a bestseller for the classroom. Many texts, however, survived almost by accident, as for example the manuscript of Archimedes defining the principles of hydrostatics, or the only full text of Aeschylus's *Agamemnon* preserved for the fourteenth-century scholar Demetrius Triclinius, whom Wilson calls "the first genuine critic produced by the Middle Ages". Manuscripts were prone to accidents; but Wilson rightly lays the blame for the most irreparable losses on the soldiers of the Fourth Crusade who found, or lost, their way to Constantinople in 1204. Yet it was in the aftermath of that disaster that Byzantine scholars, more

than ever conscious that their Greek heritage set them apart from the barbarous Latins, performed some of their most valuable service in the copying and editing of the classics.

At the end one is left wondering why the Byzantines of the fourteenth century failed to initiate a more productive renaissance of scholarship. Part of the answer must lie in their blind devotion to the letter of their legacy and their inborn reluctance to exploit its content for the development of new and original ideas. The world in which they lived was old, tired and disabled. The western world was young, wide awake and vigorous. The Greek scholars who took refuge there in the fifteenth century, clutching their manuscripts as their passports to freedom, were welcomed as the purveyors of the seeds of new discoveries. Had it not been for the work of their assiduous if often pedantic predecessors, the lexicographers, grammarians and bibliophiles of Byzantium's middle age, the Greek seeds of the Italian Renaissance might never have been preserved for rebelling in the west. These are the men whose scholarship Nigel Wilson minutely examines and honestly assesses in this learned and fascinating book.

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Separate inventions

Politics in the Ancient World by M. J. Finley
Cambridge University Press, £15.00 and £5.95
ISBN 0 521 25489 2 and 27570 9

Ten years after *The Ancient Economy*, Professor Sir Moses Finley now provides its political counterpart, in this expanded version of his Wiles Lectures for 1980. His concern here is to identify and elucidate the nature and character of ancient politics as a distinct form of human activity.

Finley operates with a rigorously exclusive definition of politics - the process by which a fully independent state (as opposed to "the manifold groupings which exist within a state") produces binding and enforceable decisions by means of "discussion and argument and ultimately by voting". Politics, on this definition, was essentially a Greek invention, or "more correctly perhaps, the separate invention of the Greeks and of the Etruscans and/or Romans". It also ranked "among the greatest of human activities in the pre-modern world", being limited in the Greek world to the period from roughly the mid-seventh to late-fourth centuries, at Rome to that from the mid-fifth century to the late Republic - the periods, that is to say, of self-governing city-states.

It is this basic similarity that, for Finley, justifies the incorporation of Greece and Rome "into a single discourse", notwithstanding the striking differences between them. Both the Greek city-states and early Rome were small-scale, agrarian societies in which class conflict between (originally aristocratic) rich and poor led to "the incorporation of peasants, craftsmen and shopkeepers into the political community as members, as citizens". Popular participation in politics was not, or not primarily, electorally mediated, but direct; and, Finley argues, constituted a genuine political force, though always to a far greater extent at Athens than at Rome. The six chapters of the book are devoted to a characteristically incisive analysis of the tensions, opportunities, and constraints inherent in "this radical socio-political innovation".

These are matters on which Finley has already published extensively (his paper on "Athenian Demagogues" is a classic) and especially on the Greek side this book both synthesizes and develops earlier work. But there is also much new analysis. On the political consequences of literacy, for example, Finley counters currently fashionable views and argues that literacy, through the written word, was to the elite, "strengthened acceptance of the elite and of its claim to dominate". Unfortunately on this, as on other issues, limitations of space preclude



A mosaic from the baths at Caracalla shows one of the judges of the games held there. Taken from *Ancient Rome: life and art* (Muller, £5.95).

fuller discussion, a drawback that on one topic produces seriously misleading over-simplification. Finley maintains that while "the religiosity of both Greeks and Romans was visible everywhere and on all occasions", there is "neither documentary evidence... nor reason to think that policy-making was ever determined or deflected by reference to divine will or divine precept". But - to cite only one of many possible examples - what of Thucydides's report that shortly before the Peloponnesian War the Epidaurians, facing crisis, asked the Delphic oracle whether they should hand over their city to their mother-city, Corinth, and, when Delphi said yes, did so in accordance with the oracle?

Discussion of this issue of course faces the pervasive problem, one repeatedly emphasized by Finley, of lack of detailed evidence. In the first place, analysis of any kind is possible only in the case of three ancient states, Athens, Sparta, and Rome, and these three "conquest-states" were clearly quite exceptional. Second, as Finley observes, "historians in antiquity wrote the history of policy, which is not the same thing as politics", while ancient literature (with the one invaluable exception of Cicero's *Letters*) in general lacks "any sustained interest in politics". Finley rightly insists that "inquiry into the ancient state and government needs to be lowered from the stratosphere of rarefied concepts"; but the disheartening conclusion to be drawn from this forcefully drawn map of the actual terrain of ancient politics is an enterprise for which we lack, and are likely to continue to lack, anything like adequate materials.

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Post mortem

Julius Caesar and his Public Image by Zvi Yavetz
Thames & Hudson, £15.00
ISBN 0 500 40043 1

Zvi Yavetz's chief interest lies in the "image" which Caesar has "projected" on historians and writers of modern times and in the picture which contemporary and later writers of Roman times paint and present. He deals with the last five years of Caesar's life. Julius Caesar became a political football almost before his death had gripped his murdered corpse. Later writers of antiquity, who provide us with a mass of material about his actions and plans, scarcely ever bother

to say (and some of them probably did not even know) where their information came from. Many of their sources were tainted Caesar's murderers (they styled themselves "the liberators") had exacted heavy penalties in return for their order to buttress their justification for their deed, to emphasize the nastiness which Caesar's murder had spared everyone.

Pro-Caesarians had a compelling motive to palliate or suppress features of his acts and intentions which they judged it prudent to sweep under the carpet. There were allegations, some of them demonstrably true, that a number of Caesar's decisions and acts which were made public after his death had been fabricated by Mark Antony; thus Cicero wrote to Atticus in April 44 BC: "Now let us have Antony in return for a huge bribe, posing up a law allegedly carried in the Assembly by Caesar as Dictator which gives Roman citizenship to the Sicilians, something of which there was no mention while Caesar was alive"; and in May he wrote to Gaius Cassius about Antony's goings-on and the "forging of documents and grants of immunities and pardons, the recording of fake senatorial decrees". The contemporary witnesses of Cicero and his friends in their private letters (public speeches and published writings have to be handled more warily) can be decisive, but was not used by, and almost certainly not available to, later writers. Yet further confusion was created by the propaganda war which soon developed between Caesar's rival "heirs", Antony and Octavian. Octavian won, but once he had become Augustus he decided that Caesar the man was something of an embarrassment and better forgotten - so Caesar the God was given precedence.

Caesar's murder came as a surprise. Why should we suppose that he had, or thought he had, completed his task by that accidental date? He had spent little enough time on it! After crossing the Rubicon in January 49 BC he spent more eight weeks in Rome spread over three brief visits down to July 46 BC. Four months later he was off again to Spain and the final campaign of the civil war, whence he returned to the capital in October 45 BC with less than six months to live - and even then he was planning to leave soon for a Parthian campaign. A few weeks before his death his office of dictator, hitherto tenable for specified periods, became one of indefinite duration: *dictator perpetuo*.

What major changes or developments an unmurdered Caesar might or might not have instituted or overseen must remain a matter for speculation. Sir Ronald Syme once asked, "Who after all could know his intentions?" But we do regularly think it worthwhile to try to divine people's intentions from what they say or do, or said or did, and some of Caesar's contemporaries evidently believed that they could be pretty sure of where he was heading and what he was likely to do - and they were not necessarily wrong. Nor can it admit of any serious doubt that, whether or not there are good grounds for supposing that Caesar would have instituted a "kingship on the Hellenistic (or any other) pattern, he meant for the indefinite future to govern from a position of central autocratic authority, of monarchy in the strict sense of rule by one man, and that he showed no sign of acting or meaning to act in any way that could be described, however honestly or dishonestly, as "restoring normal Republican government".

More questions have been asked about Caesar than can ever be answered with confidence or universal agreement. That is part of his greatness and his fascination. Professor Yavetz takes his reader through the many different answers (some of them plain daft) that have been offered in recent times. He sets out the surviving ancient evidence with clarity and order, and restrained comment. His scholarship is sound, his style readable. He seeks not to end the arguments, but to define the limits of the field of play; and, in this aim, he succeeds.

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Routledge & Kegan Paul have published *Rome's Classical Dictionary: the origins of the names of characters in classical mythology* at £8.95.

Fathers and sons

Death and Renewal: sociological studies in Roman history, volume two by Keith Hopkins
Cambridge University Press, £19.50
ISBN 0 521 24991 0

Death and Renewal is the second of two volumes in which Keith Hopkins has applied the insights and methods of sociology to ancient history. Four essays - two written in conjunction with Graham Harton, one in collaboration with Melitta Leticia - form, as it were, an inside-out sandwich.

The central pair deal with the demography of the political elite at Rome, providing a substantial diet of analysis and hypothesis based on statistics and comparative material. These are enclosed by two confessional more anecdotal and impressionistic treatments of Roman attitudes to death: the first describes how Romans created and dramatized death in gladiatorial shows, the second the rituals and social processes by which they sought to make mortality tolerable.

In the central part of the volume the authors set out to refute the common view that Rome's governing elite was a stable self-perpetuating aristocracy both under the republic and the monarchy of the Caesars. Nobility at Rome derived primarily from function (that is, tenure of high office) and only secondarily from birth and wealth. Some men of ignoble birth reached the highest ranks in the state; wealth was a necessary, but not a sufficient, condition of distinction.

What has not been demonstrated so conclusively before is how few families who contributed to the governing elite retained high office over any length of time. Ancient historians have been mesmerized by the examples of a handful of tenaciously preeminent families and have neglected (or failed to quantify) the fact that famous names slipped into long periods of obscurity. Even in the middle Republic, renowned for its political stability, only every other consul had a son who was consul or praetor. The corollary was opportunity for sons of mere senators, members of the outer core, and also for members of the possessing classes, whose fathers had not been involved in politics, their success depending on an electorate which was broader still.

Unfortunately the evidence is inadequate to define accurately the mobility at the margins of the senatorial order (the authors supply some interesting speculations) and we have no idea of the rate of change in membership of the social elite as a whole, the senators and knights combined. The conclusions still require explanation. Here comparative data about fertility are combined with ancient sources to show how the economic problems of a highly competitive aristocracy and changing attitudes to child-bearing accentuated the natural difficulties of the aristocracy producing sons who would live to reach high office. This theme is repeated and developed in the chapter on the principate. Scholars have been well aware of the changes in the composition of the senate under the emperors, especially the admission of men from outside Italy. What is emphasized here is the rarity of families who retained political status over generations: not more than a third of consuls had consular ancestors; not more than a third would have consular descendants. The self-reproduction of those who held important military posts was more tenuous. For this emperors anxious for their own security were probably partly responsible, but the aristocracy itself tended to opt for status without power - an avenue opened by the emperors themselves.

The surrounding essays on death are spectacular pieces de force. They confront the reader with the problem of empathizing with people for whom death was both a pleasure and a matter of fact. I would have liked here closer examination of the differential values set on human lives according to their status not only by those whose own lives were valued highly but also by the comparatively humble.

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BOOKS

Geological fabric

Foundations of Structural Geology
by R. G. Park
Blackie, £16.95 and £7.95
ISBN 0 216 91312 8 and 91311 X
Introduction to Geological
Maps and Structures
by John L. Roberts
Pergamon, £20.00 and £7.50
ISBN 0 08 023582 X and 023592 3

First-year degree students of structural geology are not well served with modern textbooks, and Graham Park has succeeded admirably in his attempt to provide an up-to-date and well-illustrated introduction. His book should also form a useful springboard to the more advanced texts and specialized papers cited at the end of each section.

Before attempting to analyse the stresses that have imposed the structures and fabrics on the rocks, Park first describes the geological phenomena (folds, faults and foliations) — as seen in the field, on maps, in hand specimens and in thin section. He then treats all the common types of structure and fabric in such a way that newcomers to geology should readily be able to understand their form and significance and the nomenclature used to characterize them.

More theoretical considerations are the subject of part two, in which the author shows how forces acting on rocks generate stresses and consequent strains or deformations. "Force", "stress" and "strain", terms often seriously confused in students' minds, are carefully defined. Relationships between stress and strain are established, different types of strain distinguished, and methods of quantitative strain determination are briefly described. Mathematical treatments should be well within the capability of students with only ordinary level mathematics.

Mechanisms for the production of different types of faulting and folding are considered in detail. Faults are analysed in terms of the Mohr stress diagram and there are short but interesting sections on the relationship between faulting and earthquakes and on thrust-zone tectonics. The distinction drawn between brittle faults and ductile shear zones clearly demonstrates the contrast in the behaviour of rocks undergoing deformation at, respectively, higher and lower levels of the Earth's crust. Different mechanisms of folding of layered rocks are discussed in some detail and the effects of superimposed episodes of deformation to produce fold interference patterns in layered rocks are described.

The final part uses the theory of plate tectonics to illuminate the geotectonic environment within which many geological structures are formed. Major structures in orogenic zones such as the Himalayas and the British Caledonides are briefly considered and compared with structures in Greenland, thus illustrating differences in the type and scale of tectonic activities during the Phanerozoic and Algean geological periods.

The abundant line-drawings are clear, simple and easily accessible, although some of the half-tone illustrations are rather dark and lack the definition needed to be really helpful to the inexperienced student.

John Roberts has set out with the rather different aim of using geological maps to illustrate rock structures and the relationships between rock units. However, because the interpretation of geological maps requires more information than the purely geometric ground and structural geology, including the geological timescale, stratigraphic concepts, the use of primary structures to determine which way up strata are, the tracing of folds, and features of regional metamorphism. Although the book could therefore be seen as an incomplete general geological textbook as well as one dealing with geological maps, it is still a very useful reference for advanced level students and those beginning courses in higher education who wish to interpret and produce maps representing ideas of structural geology.

The treatment of structures is entirely geometric, no attempt being made to discuss the mechanisms by which the structures have been formed. However, Roberts does provide a more detailed description and analysis, together with more elaborate illustrations, of the elements of geological structures than Park has attempted. All the geological phenomena described are illustrated by cross-sections and/or by geological maps — a judicious admixture of synthetic maps, devised by the author, and real maps representing geological outcrop patterns in Britain and elsewhere. A list of those British and United States geological maps especially useful for teaching is also included, together with a brief though well-selected reference list.

A. L. Harris

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Logicist attempts

The Logical Foundations of Mathematics
by W. S. Hatcher
Pergamon, £19.00
ISBN 0 08 025800 X

The title should be noted carefully, for it is those foundational studies which are essentially based on logic in one form or another that the book concentrates. It is really a survey of logicist attempts during the past century to provide a sound basis for mathematics — including in the term interpreted very broadly, Hilbert theory and versions of axiomatic set theory as well as category theory.

Although there is some historical note taken from time to time, this is not by any means a historical book, nor is it particularly a philosophical one — though of course it is impossible to write on this subject without some philosophical considerations forcing their way in. Rather it is a simple textbook for both mathematicians and philosophers, which expects its readers to do some hard work on the technical details.

The first chapter on first-order theories is a fairly standard treatment, with a particular emphasis on natural deduction; the book properly really starts in the next chapter on the origin of foundational studies. This the author sees as lying in the realization that the nineteenth century had done much less than was intended in making mathematics safe. A great deal more than the natural numbers was needed; in fact, "One had substituted appeal to set-theoretic intuition for appeal to geometric intuition." The logicist programme to rectify this is attributed to Frege.

Before Frege's system is described, however, the question of just what would constitute a foundation for mathematics is taken up; the author highlights six essential requirements. The system must be adequate for a large part of mathematics; it must be derived from intuitively natural principles of an economical nature as possible; and it must be consistent and expressible as a formal system. Finally, the construction of everyday mathematics in it should be natural and orderly.

Frege managed to satisfy most of these conditions by means of a system which, in the version given here, consists of first-order logic with one relation (the belonging relation) and the two axioms of extensionality and abstraction. It is particularly good to have the details of Frege's system set out in full before it is revealed (after 20 pages) that Russell's paradox can be formulated. The system fails, therefore, in one respect — consistency — and this seems to be one in which failure cannot be tolerated. At this point the author briefly mentions Brouwer, noting that an intuitionist foundation would fill the condition of having to produce a large part of mathematics. But intuitionism does represent a philosophical position concerning the nature of mathematics which cannot be refuted in any simple way. Let us again remind ourselves that we have, at yet no proof that the mathematics for which we are trying to give a foundation is itself consistent.



Sir Henry Layard supervises as a winged bull sculpture is removed from a doorway at Nimrud and lowered on to a wooden platform. Taken from *Sargon's Foundations in the Dust: the story of Mesopotamian Exploration*, a revised and enlarged edition of which has been published by Thames and Hudson at £4.95.

In the chapter on type theory which follows, the author begins with a predicative type theory, simpler than Russell's (in fact, not unlike that of Weyl in *Das Kontinuum*). He then discusses Russell's theory, and simpler versions of it; and follows this with an account of Zermelo-Fraenkel set theory (with a little on von Neumann-Bernays-Gödel theory) and then a fairly orthodox account of Gödel's proof. Quine's two systems get a chapter to themselves and the final chapter, which is the longest in the book, deals with the first-order language of categories and with topology theory. The view taken here, which is surely right, is that, although early promises that category theory would be a universal cure-all for foundational problems have not been fulfilled, the ideas will still prove to be of importance. In fact:

It appears more and more clearly that what is truly foundational is not some arbitrary starting point... but certain key, unifying notions common to many different aspects of mathematical practice. The comprehension scheme of set theory is certainly one of these foundational principles but not... the only one. The notions of universality and neutrality in category theory are clearly just as important, nor does anyone doubt that others will be forthcoming.

Such a cool appraisal is typical of the approach of this excellent book.

C. W. Kilmister

C. W. Kilmister is professor of mathematics at King's College, London.

Intelligent computers

Artificial Intelligence
by Elaine Rich
McGraw-Hill, £22.75
ISBN 0 07 052261 8

It would be difficult to imagine a more typically twentieth-century character than a computer scientist at the University of Texas, writing about artificial intelligence (AI). Yet Elaine Rich quotes a kindred spirit from the nineteenth century, Lady Ada Lovelace.

In considering 'new' subject, there is frequently a tendency, first, to overstate what we find to be already interesting or remarkable; and, secondly, by a sort of natural reaction, to underestimate the true state of the case, when we discover that our notions have surpassed those that were really tenable.

The Countess Lovelace was referring to Charles Babbage's analytical engine, the prototype digital computer. The fact that a high-level programming language has been named Ada in her honour suggests that Lady Lovelace's judgement on 'computational' matters was astute. Not only was she ahead of her time in seeing the potential implicit in Babbage's unwieldy cog and wheel machine, but her remark could usefully be emblazoned in neon lights for our benefit today.

Too many people either sensationalise the 'sensational' aspects of

predict computerized marvels just around the corner, whereas the sceptics assume that well-defined computational procedures cannot possibly result in performance of any interest. However, the potential of AI is greater than the latter group will admit, and harder to achieve than the former group realize.

Dr Rich falls into neither group, but provides a balanced account of AI's achievements and of the problems still to be resolved, many in unexpected areas (even to the professionals, when they started out to design intelligent computer systems). The things we can all do without conscious effort — such as perception, language-use, and common-sense reasoning — are proving extremely difficult to automate. By contrast, it is possible to program a useful level of specialist expertise, at least for circumscribed problems where relatively simple forms of reasoning suffice. Such 'expert systems' programs assist with consultant advice in problem areas such as medical diagnosis and prescription, genetic engineering, chemical analysis, and geological prospecting for minerals and oil.

Her book is drier than sensationalist or sceptical tracts for another reason, as it is a textbook for the student learning to write AI programs, rather than a survey for the general reader. However, much of it could be of interest to people who want some idea of how programs are written, without getting lost in programming code.

The account of basic computational techniques is clear, and the author highlights the general strengths and weaknesses of different ways of representing knowledge and of defining heuristics for problem-solving. These matters are discussed in terms of their underlying logic, and the final chapter compares the merits of various high-level programming languages — again, without reference to detailed implementation. The chapter on perception mentions but does not discuss recent work on low-level vision, concentrating on ideas based in the more traditional scene-analysis approach.

There is a useful section on 'non-monotonic reasoning', a form of inference needed when the deletion of previous ones. If I invite you to tea, it is sensible for me to assume that you do not have diabetes and to plan the meal accordingly; but if I later find out that you are a diabetic, my beliefs about your eating-habits — and other aspects of your life-style — will have to be altered. Traditional logic cannot model such reasoning, since once a statement is accepted (proved) it cannot be deleted.

Twentieth-century Texas, then, has given us a useful introductory text for students of artificial intelligence. As for Lady Lovelace, were she still around to read it, she would be informed — but not amazed.

Margaret Boden

Margaret Boden is professor of philosophy and psychology at the University of Sussex.

Computing in Biological Science, a collection of articles on the contributions of computer methodology to major areas of biological science, has been edited by Michael J. Gelsow and Anthony N. Barrett, and published by Elsevier Biomedical Press at £1.10. Topics fall into four main areas: biological modelling, image analysis, structure and dynamics.

Sex ratios

The Theory of Sex Allocation
by Eric L. Charnov
Princeton University Press,
£32.50 and £9.65
ISBN 0 691 08311 8 and 08312 6

How should animals and plants allocate resources between male and female reproductive functions? Why should most plants be hermaphrodite, whereas most animals have separate sexes? Why should some animals change their sex, functioning as males when young and as females when older (or the other way round)? In his book, Professor Charnov, who has for many years been a leading researcher in this field, has applied modern evolutionary thinking to these and other problems.

The outstanding merit of the book is the way in which the author has integrated the development of the theory with discussion of experimental and observational tests of the theoretical predictions. And he manages to convey the excitement of the continual interaction between theory, experiment and observation: this is of course the way in which science should be done, but it does not always work out like that in practice.

The book begins, for historical reasons, by considering the sex ratio in species with separate sexes. The basic idea is that, if males are less common than females, then a male must on average have more children than a female since each child has one father and one mother. Thus natural selection will favour the production of the rarer sex, and at equilibrium the two sexes must be equally frequent.

There are two important exceptions to this rule. First, many parasitic hymenoptera (for example, wasps) lay male eggs in small hosts and female eggs in large hosts. The reason is that host size determines the size of the resulting parasite, and that female parasites have more to gain by being larger than males; if therefore the parents vary the sex of the egg with the size of the host. As this adaptation presupposes that females can determine the sex of their offspring, it is significant that it is largely confined to those species in which the sex of the offspring depends on whether or not the egg is fertilized when it is laid.

Second, the theory predicts a female-biased sex ratio when mating occurs within small, localized groups in which there is an appreciable chance of a male mating with his sister; experiments and observation on hymenoptera confirm this prediction. The closely-related problem of the evolution of sex-determining mechanisms will be treated in a companion volume by J. J. Bull.

The second part of the book considers sex reversal — a similar idea to the host-size model. In marine animals with continuous growth, large size may be much more important to one sex than the other, and it will pay to change to this sex when a certain size has been attained. Thus, female fecundity is highly correlated with size in crustacea, whereas it probably makes less difference to a male's reproductive success; accordingly, some shrimp change sex from male to female. On the other hand, as size probably makes more difference to a male than to a female in species in which the males hold territories, we find examples of sex change from female to male in many territorial coral-reef fish. Furthermore, the theory enables us to make testable predictions about the age of sex change which are remarkably well borne out by the available data.

The final part of the book reviews the theory and evidence about the relative advantages of hermaphroditism and the existence of separate sexes, with particular reference to plants. However, although the author has managed to assemble several pieces of the jigsaw, I feel that more work will be required, both in theory and in the field, before we have the answer to this problem.

Michael Bulmer

Michael Bulmer is lecturer in zoomorphology at the University of Oxford.

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Closing date: 15 October 1983 except for William Wyse Professorship for which closing date is 15 November 1983.

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Applications (10 copies), marked 'Confidential', should be sent to the Secretary General of the Faculties, from whom further information may be obtained at the General Board Office, The Old Schools, Cambridge CB2 1TT. Names of two referees may be submitted if desired.
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University of Manchester

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WAIT

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Closing date: 15th September 1983.

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The Times Higher Education Supplement August 12

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- The development and transfer of technology - Keith Pavitt, University of Sussex.
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Miscellaneous

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Don's diary

Monday

Spend day at workshop on the University of the West Indies Distance Teaching Experiment, or UWIDITE, as it is popularly known. In effect a glorified international party telephone line, this permits a class to take place simultaneously in Barbados, Jamaica, Trinidad, Dominica, and St Lucia, and for students to ask questions irrespective of the actual location of the lecturer. Money permitting, it is hoped to extend the system, and it clearly offers immense possibilities to a university whose three campuses are on islands at a considerable distance from each other, and which is also funded by the governments of other islands whose inhabitants, because of difficulties in communications, can at present enjoy only a limited participation in its benefits. It is also hoped that UWIDITE will act as a unifying influence at a time when the trend is towards greater autonomy for individual campuses. I notice that administrative staff are very interested in using the network for conference purposes! After the opening session, attendance drops considerably for the afternoon, which surprises me. The workshop is, of course, conducted over the system, and a very nice American lady in Jamaica talks to us nineteen to the dozen on the importance of speaking slowly in the distance teaching. She also uses some very American jargon which leaves at least those of us in Barbados rather baffled. Even after explanations, I am still wondering just what is a buzz group.

Receive yet another letter of rejection. This job ends in July, and I still don't know what I will be doing in September.

Tuesday

Second day of workshop. Numbers, at least here, have dropped again. Authoritative-sounding gentleman in Trinidad tells us how to prepare suitable teaching materials for this sort of set-up. Find myself wishing I knew more about how the Open University works. Some technical problems still need to be sorted out - it seems that it rains too heavily anywhere in the Caribbean, the quality of the reception suffers quite noticeably. In the afternoon we lose Jamaica altogether.

At the end of it all, charming chemistry lecturer points out that we can now add "Have attended two day mini-course on teleconferencing and distance teaching" to our CVs.

Wednesday

After dealing with a few things in my office, I walk down the hill to the Barbados government's Department of Archives. This comprises a very favourably with Kew, at least in the nearly any document you ask for will be brought to you within five minutes. The staff are extremely efficient, and it is always a pleasant place to work. The only serious drawbacks are that they need more money for conservation purposes, and there are no photocopying facilities - all copying has to be taken into the university, as and when time and staff availability permit. Lunchtime entertainment is, sometimes, provided free of charge - a large family of monkeys lives in the woods behind the archives' buildings, and puts in an appearance from time to time.

I am working my way through a box of nineteenth century clerical testimonials. Cannot help but think that some very strange characters came out here as "clergymen" of the Established Church.

In the evening feel special glow of kindness to humanity as I mark an essay handed in several weeks after the deadline.

Thursday

Those who know me in England tell me, think of me as an early riser, but I am on the steps of the archives by eight o'clock, waiting for them to

open, and by 8.15 am settled at a table. Finish box of testimonials, a process interrupted by a phone call from the Government Printing Office. A fortnight previously I bought from them a copy of the Copyright Act, and they have been pestering me ever since - the clerk put the carbon in the wrong receipt they gave me and on their copy did not tally. They accordingly wanted the receipt back and I kept forgetting about it, finding it difficult to believe that such a mistake over a receipt for two dollars (rather less than 75p) could be that important. The Printing Office now propose to send a messenger to collect it. A little stunned, I meekly inform them that I will be in my office on campus.

Sure enough, the messenger arrives. The trip from town must have cost more than five dollars in petrol. Receive apologetic phone call from student with three overdue essays. Accept explanation of ill-health. Feeling of self-congratulation at own benevolence vitiated by thought that essays will have to be marked.

Friday

Go to Bridgetown. Visit the public library, which is an excellent institution. Afterwards do some wandering about town, and am very pleased to discover obscurely-published history of local church in one of the bookshops. Not so pleased at wasting an hour and a half in futile attempt to secure government identity card. There is a large queue moving very slowly, and I have another appointment. This is a restaurant lunch given by the department for a visiting Nigerian examiner of the African history paper. Very pleasant occasion. Sample pepperpot for the first time, also salt fish with okras - once a poor man's dish, this is now something of a delicacy.

Saturday

At home reading tome of great importance and quite penitential dullness. Cannot allow myself to feel too virtuous, as I should have read it long ago.

Sunday

Woken early by dog barking. Stick head out of window to discover what is going on, and disturb small group of children raiding the cabbage patch. As the whistling frogs, the caterpillars and the monkeys also appear fond of our vegetables, not much gets as far as the table. Predial larceny is all too common, and similar incidents across the island must do considerable damage to an economy which is still, in spite of the importance of tourism, heavily dependent on agriculture.

Spend most of the day reading report of a trial for obscenity which took place in Barbados in 1821. Very excited to find it an almost classic account of witch-finding, with clear parallels in both Africa and the British Isles. Modern synthetic faiths in the region have been quite extensively studied, but it is unusual to find such detailed information on non-Christian beliefs in the West Indies at so early a date.

Telephoned by student wanting to know what she could read on the subject of the European impact on the aboriginal peoples of the Caribbean. The exam is next week.

Monday

A holiday. Stay at home and write long letter to the head of the Caribbean Lexicography Project on a number of linguistic points raised by yesterday's reading.

John Gilmore

The author is a visiting lecturer in the department of history at the University of West Indies in Barbados.

How Reagan learned to love school



Ernest Boyer

Education has become one of the hottest political topics in America. After years of neglect, the nation's schools suddenly are in the spotlight. Every major politician has his or her own special formula for school improvement and President Reagan has vowed to keep the issue alive during the presidential campaign next year.

It is ironic that the trigger sparking the current debate came from an administration whose record on publicly funded schools deserves a failing grade. For two consecutive years, Reagan sought to cut federal support for education while advocating prayer in schools and tax relief for parents who send their children to privately funded institutions.

A national commission on excellence in education, appointed by secretary of education Terrell Bell, released a report last April proclaiming that there was a "rising tide of mediocrity" enveloping the schools. The national commission report was soon followed by a spate of other pronouncements and formulas for reform, all arguing for tighter academic standards.

This push for school improvement was predictable. In recent years Americans have been shocked and disappointed by reports of falling test scores and the inability of many of our students to achieve high academic standards.

Still, there is a growing concern that while the national commission report has captured headlines with inflated rhetoric, it exaggerates our failures, ignores achievements, and offers simple solutions to the complex problems. Missing in the current debate is the recognition that the American school, perhaps more than any other institution, has felt the impact of changing family patterns. The number of children under 18 who are affected by divorce has more than doubled since 1960. Nearly one out of five families is maintained by a single woman. Two thirds of these mothers work. About half the children now entering school will have lived in one-parent homes by the time they graduate from secondary school.

This shift in family life has caused the school to take on the responsibilities of the home. Teachers become counselors to students whose parents are caught in a divorce. And schools find little support at home when tougher standards are imposed.

Lawson haters versus the loathers



Jack Straw

The Conservative Party, it is said, is divided into those who loathe Nigel Lawson, and those who merely hate him. The knowledge that this is so, and there are few Conservative members who now privately seek to disguise this truth, has kept me going through the first dismal and otherwise depressing six weeks of the new Parliament.

There is nothing we can do by ourselves to defeat the Government, but that does not mean there is nothing we can do. We can destabilise the Government, undermine its self-confidence, not least by exploiting the latent tensions which exist among members of the Cabinet - and the very obvious tensions which exist between the Thatcherite masters of the new Conservative Party, and the dispossessed grandees of the old Tory Party, like Rym and Gilmour, who brood and glow from the backbenches waiting only for their moment to strike.

Managing the Parliamentary Conservative Party will be a nightmare, as the Government's lack of support, as the public mind turns to the Tories, will only make us feel.

Also missing in the brouhaha is a shared vision of what schooling should accomplish. Today, the push for excellence is being linked to economic recovery and to jobs. We're told that better schools will move the nation forward in the high-tech race.

Others argue that schools must do more than put the nation in a competitive advantage. We may not yet be a global village but surely our sense of neighbourhood must include more people and cultures than ever before. The world's 165 independent nations and 50 other political units are now completely interlocked. The vision of education must not only be national but global.

Everybody acknowledges that national interest must be served by the schools. Still, there is also alarming evidence that American students are poorly informed about the world and almost uniformly devoid of skills in foreign languages. But some school reformers argue that if education can't help students see beyond themselves and better understand the interdependent nature of our world, each new generation will remain ignorant and its capacity to live confidently and responsibly will be dangerously diminished.

to warn of the dangers of the landlaid: 250 MPs on the Tory backbenches, only 20 or 30 will gain preferment during the lifetime of this Government: they will be replaced by 20 or 30 who will have lost preferment. The level of grumlement among the Tories is declining every day.

One man who knew exactly how to exploit differences inside the Tory Party was Chris Price, who wrote this column during the last Parliament; and who by a capricious lack of judgment on the part of the electors of Lewisham West lost his seat on June 9.

Whenever I have been asked what an individual MP can do against the executive and the establishment, I point to Chris. His record really is impressive. His remarkable six year fight on the Conliff case, to secure first the release and then the pardon of three men wrongly convicted of murder, would alone be a sufficient testament to his tenacity and diligence. He simply refused to let go of an issue if he felt it had to be pursued.

But, on top of that, and his continuing work on civil liberties and mental health, there was in the last Parliament his work as chairman of the Select Committee on Education, Science and the Arts. No chairman of a select committee showed such flair in freely interpreting his terms of reference, and then carrying the Conservative majority with him.

His committee conducted inquiries not just into the Government's education policies - though there was meat enough there - but into the prison service (by looking at "standards of education"), VAT on theatre tickets, official secrecy and the 30 year rule on Cabinet papers - and the editorial independence of the *Murdoch* regime. Though thwarted in the end by Cabinet Secretary Robert Armstrong, he overcame an inquiry into the workings of MIP and MIF.

It is difficult to write a tribute without it sounding like an obituary. But Chris is alive and well, and we need him back urgently.

The Select Committees of the new

Another source of confusion is the lack of agreed-upon priorities for school improvement. The national reports have offered us a platter-full of proposals. They range from tightened course requirements - more English, more science and mathematics - to computer literacy, to more homework, and to a longer school year, to name a few.

President Reagan has seized on one proposal - "merit" pay for outstanding teachers. At present teachers both good and bad are locked into a seniority system that does not differentiate when it comes to salaries. By pushing "merit" pay, the president has identified himself with the cause of school improvement while also challenging the nation's largest teacher union - the National Education Association - which also happens to be closely identified with the opposition party. By lengthening the school day and increasing homework - even raising teachers' pay - appears to offer few simple bromides from the past rather than a challenging vision of the future.

One final point. In the great debate about schooling in America, the emphasis appears to have shifted from concern for equality of opportunity to concern for educational quality. This is occurring at the very time the ethnic and racial composition of young America is changing.

It is projected that by 1990, minorities will constitute 20 to 25 per cent of the total US population and more than 50 per cent of school enrollment.

Of special concern is the fact that minority young people are precisely those with whom most of our nation's schools have been least successful. Clearly, equity and excellence cannot be divided.

A push for excellence in American education is overdue. We need to clarify the goals, tighten academic standards, and improve support. But there is a growing fear that politicians will capture the debate and that, after the national election, school reform will fade as fast as it emerged. If this occurs, public confidence in education may continue to decline and the gap between the nation's hopes and have not will continue to expand.

The author is former United States commissioner of education and president of the Carnegie Foundation for the Advancement of Teaching.

Parliament will not now be established until Christmas. Their appointment has been delayed by the usual cosy conspiracy of the Whips Offices. It's sad, because they each could have conducted swift inquiries into the effect of Nigel Lawson's cuts, which could have provided hefty ammunition. Inside Cabinet and outside, against any further imminent butchery.

The number of Tories who have moved into the loathing camp has increased dramatically since Lawson's statement on July 7. The cuts were so plainly the product of panic, inexperience, and poor judgment. They were justified on the ground that Treasury forecasts which became available just after the election indicated both an overshoot on borrowing and the money supply, and a significant overspend on "demand related" services, like unemployment and supplementary benefit, and drug prescriptions.

But three weeks later it now transpires that the Public Sector Borrowing Rate is on target, and that to the extent that the money supply figures are worth worrying about at all, their increase can largely be explained by technical factors. Stockbrokers Phillips & Drew have pointed out that this year's July financial figures are very like last year's: and that last year Chancellor Howe used them to justify an increase in expenditure. But last year was pre-election year, and what a difference that makes.

One other point: which has been missed so far is that the real overspending culprit is not the Welfare State as Lawson would have us believe, but the Common Market. Overspending here seems to account for over £600m of the additional £1 billion which Nigel Lawson says he has to find. The rebate for this year, negotiated by Margaret Thatcher at Stuttgart is £350m less than anticipated in the Public Expenditure White Paper; while direct UK spending on the CAP is up by £257m in the supplementary estimates.

This time, readers of *The THES* should note: the choice has been books or butter. With apologies to the original book, we make us powerful, butter will only make us fat.

The needs of Londonderry

Sir, - Eric Robinson's letter (*THES* July 15) was most welcome to those of us who are trying to keep some form of sanity in a mad, mad world. What Magee (or the Londonderry campus, as its new masters insist it should be called) needs are autonomy and staff. The task is by now well defined: it was beginning to be done but expansion into part-time degree courses, vocational courses (certified and non-certified) and other programmes clearly identified was continuously blocked (as my files will show) by decisions taken outside Magee, mainly at Coleraine. It is degrading to the city and educationally wasteful that the needs of the west of this province shall be determined by the interests of the north and east.

I am not convinced that the new university institution, with its dogmatic approach to a unitary structure across four widely dispersed campuses, will give us Londonderry campus the autonomy it needs; the provision or not of courses will still be determined by staff located at Coleraine or Jordanstown. It certainly will not give the campus staff; a maximum of 25-30 full-time staff (out of more than 750 academics) is envisaged. If the parliamentary select committee's proposals give more hope for autonomy and staff for this needy area, then they should be commended and supported by many in the city. But this would call for a massive change of heart on the part of government and those who have dealt with both the province's administration and central government know that miracles just don't happen any more. Perhaps we are just as mad as the others by daring to hope.

Yours sincerely,
ALAN ROGERS,
Director, Magee University College,
New University of Ulster.

Disabled students

Sir, - So, yet again, the picture of a person with a disability has been used on the front page of a newspaper (*THES*, July 22). The student's achievement, or maybe those of her guiding care are noteworthy. But isn't it far more noteworthy that the obtaining of a degree by the student who is blind should be considered front-page news by *The THES*? The article presumably tries to reassure us that the system is working well and that if a disabled student is stereotypically brave and independent, then he or she will succeed.

But is everything really right in a higher education system where almost all buildings in a large number of universities and polytechnics are inaccessible to wheelchairs; where inaccessible buildings are still being built; where the percentage of course-work available on tape for students with a visual handicap is small; and where lectures are refused to teach students with certain types of disability, such as deafness, because of the extra work it may entail?

It is sometimes argued that such articles as the one last week showing a disabled student being successful encourage disabled students to enter higher education establishments and encourage the establishments to accept disabled students. This is extremely patronizing and totally misses the point of why there are, proportionally, so few students with disabilities. The effect on most people is simply to reinforce their stereo-type of a disabled person as a remote, unnatural object, to be talked about and at rather than as a friend. How much longer must we wait before students with disabilities are accepted as ordinary members of their educational establishments, appearing in photographs alongside able-bodied fellow students, rather than being exploited in this way?

Yours faithfully,
NICK CLARKE,
Postgraduate,
Department of Pure Mathematics,
Leeds University.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

LETTERS TO THE EDITOR

Lord Beloff's unkind criticism

Sir, - In his report last year on the Social Science Research Council, Lord Rothchild (Cmd 8554) incorporated the text of a communication from Lord Beloff, in which the latter said, *inter alia*, the following:

I would doubt, knowing something of its director, that the country will be much helped in dealing with the burning issue of race relations by the unit recently moved from Bristol to Aston.

Lord Beloff has chosen neither to withdraw nor give any substance to this remark.

My council has therefore asked me to make it publicly clear that Professor

John Rex enjoys its complete confidence as director of the research unit on ethnic relations at Aston. We know Professor Rex as a sociologist with an international reputation, and we were extremely pleased when he persuaded him to give up his chair at another university and take on this task for us. Professor Rex, like any other academic, is well used to defending himself in the normal run of controversy, but in light of the nature and origin of this particular criticism (if so it be) I feel it appropriate to speak for him.

We have no wish to prolong the argument about Lord Beloff's re-

Voting methods

Sir, - Clearly I must owe Brian Hill (*THES*, July 22) several apologies, for being so remiss as to judge his earlier letter in the light of practical politics. He had gone to the trouble of writing a letter to *The THES* drawing attention to a particular voting method, and had presented it in a very favourable light. I am not sure I then left it to others to draw their own conclusions, but in the crude world of practical politics I am afraid the distinction between this and "seriously advocating" the method is too fine to be easily discernible.

He also quotes a source, from 1909, to show that it is not a "myth" that there is a close personal link between an MP and his constituency. In the crude world of practical politics, 1909 is long enough ago to be regarded as almost in mythological times, judgments being made on the basis of how politics have been conducted rather more recently. This seems to be true not just of practical politicians, but of voters, most of whom will not be able to recall 1909. It is no doubt possible to disregard the attitudes of actual voters as being irrelevant; there is no need for the constituents themselves to be aware that a close personal link is supposed to exist, or used to exist, or even does exist. What certainly is relevant, however, is that in the practical politics trade the word "myth" is often used as a euphemism, for something which is claimed to exist but actually does not. I accept that I should not in this particular context have used the word "myth", and should have substituted a more appropriate word of similar length.

I also regret that when I said that multiple voting had "long since been considered and rejected" by advocates of a fairer voting system, I did not make it explicit that I was not thinking back as far as the first Reform Act. I confess that I had not regarded the Whigs of the 1830s as supporters of fairer voting in the modern sense. I indeed gave absurdly recent references

Yours sincerely,
BRIAN MEEK,
Director,
Computer Unit,
Queen Elizabeth College,
University of London.

The trouble is possibly that, in the crude world of practical politics, it is all too easy to overlook what constitutional history and theory say about the way our parliamentary and electoral arrangements operate, and be unduly influenced by the way they actually operate.

Mapped out

Sir, - New Zealanders are not accustomed to seeing maps of the world on which their country does not appear. Such maps are usually produced in Britain, have the Greenwich meridian as the centre line and New Zealand is dropped, being inconveniently positioned on 180° longitude, just where the cartographer wants to "cut the map. On the map of the world illustrating John Piper's article on plate tectonics, "Rock and roll on a massive scale" (*THES*, May 27) the centre line is 100° west and New Zealand should appear almost full frontal. Alas, in spite of the fact that our country has teetered on the boundary between the

Scottish transfer

Sir, - You stated in your leader of July 29 that Glasgow College of Technology is "apparently delighted by the prospect of transfer" to central institution status. I do not know who the person was who reported this delight as the college council and the students' association both have a policy against the transfer. We in the students' association are actively campaigning against the transfer and hope to attract support from our views on the matter. Apart from this small discrepancy we wholeheartedly endorse what was said in the article.

Yours faithfully,
IAN WRIGHT,
President, Students' Association,
Glasgow College of Technology.

Factual error

Sir, - Michael Holroyd is quite right (*Letters*, July 22) to criticize the phrase "unlike fiction, biography is based on fact", which appeared in my article on Keynesian biography (*THES*, July 8). This "apparent truism" slipped into the article as first submitted - a month before it appeared. I subsequently changed it to "unlike fiction biography is circumscribed by fact". But my efforts to get the change incorporated into the final text failed. So the published view of the relationship between biography and fiction is the printers', not mine.

Yours faithfully,
ROBERT SKIDELSKY,
32 Great Percy Street,
London WC1.

Universities need holiday from shocks

It's bucket and spade time again. The end of July/beginning of August represents a slight lull in the merry-go-round and hectic activity that now passes as the norm in university circles. Even this, though, is relative. Across one's desk pass cases of members threatened with all sorts of personal traumas.

Ministers continue to make statements about Government expenditure. But then ministers, of whatever party, always want to make statements on Monday Thursday or when the MPs have their heads packed and their children waiting in the car outside. And then, of course, there is the University Grants Committee, which has just issued, at the time of writing, a recurrent grant letter to institutions.

But there are still a few weeks to mull over on what has been another hectic year in the universities. If we are a patient on the operating table, the university system would perhaps be best described as "now coming out of shock". It has not only been the staff who have seen their careers and expectations devastated since the 81 cuts, but also university administrations, which have had to live through what industrialists would call "management by crisis".

The overwhelming battle that has been won during the last year remains for us the battle that has taken place against compulsory redundancy. The last thing the AUT wishes to do is to gloat over the victories gained during the last year. What has been important is that it has taught several of the more hawkish vice chancellors that they are accountable to academic staff. It is, of course, not the vice chancellor, that determines academic policy.

Also of importance have been the countless problems sorted out behind

AUT

the scenes. Many of these have been resolved to the satisfaction of the members and the institutions. Although it may be a cliché to say this, all the defence against compulsory redundancy could not have been possible without the self-sacrifice of so many members of the AUT, for literally thousands have given up tenured posts and accepted early retirement to protect the careers of younger colleagues. Another battle which we could at least claim as a "score draw" concerns the *raison d'être* of the universities. William Waldegrave, the minister who has since run out of briefs, announced publicly on behalf of the Government in March that "Britain does need its universities".

Since high tech is now in vogue in Government and City circles, we have at least had money earmarked for certain specified research areas. There has been a welcome recognition, as well, that the take-up of ideas proposed in universities has been appalling.

The university system, as it comes out of shock, is going to look very hard at the way it has been treated in recent years. Come September and beyond, the need is for a university system that is altogether more self-confident and assertive in its own defence. The AUT believes that, under colossal pressure, the universities have now a first-class job that tenure is absolutely essential to the well-being of the system; that vice chancellors ought to take a much more public position in defending the system and its staff. And that many of the scandalous features of the existing system, such as the treatment of research staff, are in need of overhaul. It will not be as one DES official put it to the Labour Party had been returned, we would have been in for a very interesting time, but now we are in for "more of the same". Sitting here now I would like to think that this will not prove to be right.

John Akker

The author is deputy general secretary of the Association of University Teachers.